MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE
EMERGENCY SUPPORT FUNCTION 8:

PUBLIC HEALTH AND MEDICAL SURGE CAPACITY AND CAPABILITY INCIDENT RESPONSE ANNEX

Draft 6.0
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RECORD OF CHANGES

DATE	UPDATED BY:	VERSION
2004-2008	Marsha Davenport, MD, MPH – OP&R	Versions 1-4
January 2009	Marsha Davenport, MD, MPH – OP&R	Version 5
July 2009	Heather Brown, MPH – OP&R Ivan Zapata, MS, CHES – OP&R	Version 6

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Executive Summary

Introduction

In response to an event of a disaster or catastrophe, it will be critical for the public health and healthcare system to be able to increase its capacity and capability to meet local, regional, and statewide resource needs in a collaborative and organized manner. This plan serves as a guide to expand public health and medical surge in response to a large-scale emergency affecting Maryland or the nation. This plan provides for sufficient flexibility to account for the unknown nature of public health and medical emergencies and the needs of different stakeholders. While designed as a State plan, the plan attempts to respect the differences and needs at the various jurisdictional levels to allow flexibility in the design and implementation of the local versions of this plan.

Purpose

The purpose of the Maryland Public Health and Medical Surge Capacity and Capability Incident Response Annex is to provide guidance on how the public health, health care system and preparedness partners can work together to provide medical surge and resources during a disaster or catastrophe.

Planning Assumptions:

The Department of Health and Mental Hygiene's (DHMH) Office of Preparedness and Response (OP&R) is responsible for the coordination of the public health and medical (emergency support function 8) resources required in response to a disaster or catastrophic incident.

The following assumptions help define the limits and scope of the plan. Moreover, although there may be activities that are part of the standard operating procedures for a healthcare entity, this plan is not designed to address or replace them. Rather, this plan is designed to build upon those procedures and to be a vehicle for planning and sharing resources across healthcare entities in the State and the nation, if needed. The five assumptions are:

1. Healthcare entities are reporting extremely large volumes of patients.
2. Healthcare entities and local health departments are reporting high staff absenteeism.
3. Healthcare systems are requesting assistance from the State.
4. The State is moving towards requiring additional assets from neighboring states and/or the federal government.
5. The Governor or designee has declared a catastrophic health emergency.

Planning Tools
The plan is designed to follow the guidance put forth in the January 2008 version of the National Response Framework (NRF) from the United States Department of Homeland Security (DHS). The Public Health and Medical Surge Capacity and Capability Incident Support Annex is only one of several plans developed by the DHMH as part of the agency's leadership role for the State in coordinating, preparing, responding, and recovering from potential manmade or natural disasters. The NRF is used as the basis for the design of this plan. The plan is divided into three parts:

1. Part I: Prepare
2. Part II: Respond
3. Part III: Recover

In addition, the plan uses a six tiered response system to provide a framework for coordinating and integrating public health and medical resources into the response of a large-scale emergency. Each of the six tiers depicts a level of public health and medical resource management. An incident will escalate up the tier system as more response organizations, facilities, and resources are needed to respond to the event. The objective of using the tier system is to describe the coordination and management of diverse public health and medical entities involved in planning and responding to a disaster. The tier system is a guide and not a mandate for how the health care community should seek additional resources for managing a medical surge event. The six response tiers are:

1. Tier 1: Single Healthcare Facility Response
2. Tier 2: Jurisdiction Response
3. Tier 3: Intrastate Regional Response
4. Tier 4: State Response
5. Tier 5: Interstate Response
6. Tier 6: Federal Response

Response Guidance
Providing response guidance to all supporting agencies is paramount. The Public Health and Medical Surge Capacity and Capability Incident Response Annex provides guidance in the following areas: framework and decision making; roles and responsibilities during a public health and medical surge event; resources and staffing required to a support public health and medical surge event; public health and medical surveillance; and public health and medical recovery strategies.

Appendixes
The Public Health and Medical Surge Capacity and Capability Incident Response Annex also provides additional resources and guidance for alternate care sites, altered standards of care, and additional medical surge planning resources.

PART I: PREPARE

CHAPTER 1:

BACKGROUND

PART I: PREPARE

CHAPTER 1: BACKGROUND

PURPOSE:

The purpose of the Maryland Public Health and Medical Surge Capacity and Capability Operational Plan is to provide guidance on how the health care system and preparedness partners can work together to provide medical surge and resources during a disaster or catastrophe. In the event of a disaster or catastrophe, it will be critical for the healthcare system to be able to increase its capacity and capability to meet local, regional, and statewide resource needs in a collaborative and organized manner in response. This plan serves as a guide to develop training, exercises and public-private partnerships to expand public health and medical surge in response to a large-scale emergency affecting Maryland or the nation.

The plan requires the coordination of partners across the healthcare system and at State and local levels. Each entity will need to identify its roles and responsibilities during an emergency and must test these roles during exercises as well as in real-life events. This Medical Surge plan also serves as a template for developing facility-specific plans. Further, this plan and subsequent plans should be developed incompliance with the National Response Framework (NRF). Key to the success of the response to a disaster or catastrophic incident will be how well the preparedness partners within the State of Maryland have integrated this and other plans into the culture and fabric of their specific institutions and organizations.

DEFINITIONS:

The reference for the following definitions is CAN Corporation, *Medical Surge Capacity and Capability: A Management System for Integrating Medical and Health Resources during Large-Scale Emergencies;* second edition; September 2007.

Medical Surge:

Medical surge describes the ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community. This concept is comprised of two related, but slightly differing, components:

- **Medical Surge Capacity:**

Medical surge capacity is the ability to expand rapidly the resources of the existing healthcare system in response to an event. Health care systems respond to fluctuations in capacity on a daily basis and systems should already exist to make it happen.

Requirements for handling this type of surge may extend beyond direct patient care to include such tasks as extensive laboratory studies or epidemiological investigations. Due to its relationship to patient volume, main issues for addressing medical surge capacity involve having systems and processes in place for obtaining an increase in the following types of critical assets:

- Equipment
- Hospital beds
- Personnel
- Pharmaceuticals
- Physical Space
- Supplies
- Transportation

- **Medical Surge Capability**:

Medical surge capability is the ability of the system to expand rapidly the capacity of the existing healthcare system in order to manage patients requiring unusual or highly specialized medical evaluation and care. Examples of situations include responding to a mass casualty/mass fatality incident or an influenza pandemic. For the most part, health care systems have generally not tested their capability, and will require support and buy-in from communities developing the systems to make it happen.

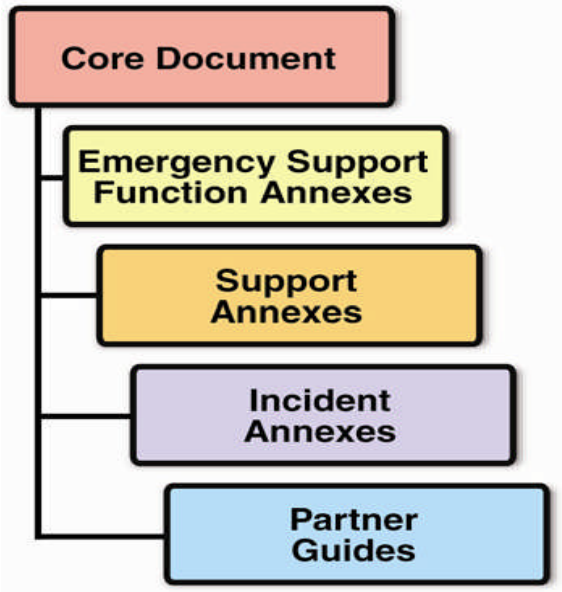
While related to capacity, capability is more dependent on the nature of the incident and the specific resources required for response. Medical surge capability involves issues pertaining to the need for special intervention to protect medical providers, patients, and the integrity of the medical care facility during a public health emergency. Medical surge capability requires that health care providers provide the range of specialized medical and healthcare services that are needed in excess of what is normally available at the location where they are needed during this emergency. Examples of the types of resources that comprise medical surge capability include:

- Equipment
- Expertise
- Incident Management Practices
- Information
- Personnel
- Procedures and Protocols
- Supplies

OVERVIEW OF THE PLAN:

The plan is designed to follow the guidance put forth in the January 2008 version of the National Response Framework (NRF) from the United States Department of Homeland Security (DHS). The Public Health and Medical Surge Capacity and Capability Plan is only one of several plans developed by the Department of Health and Mental Hygiene (DHMH) as part of the agency's leadership role for the State in coordinating, preparing, responding, and recovering from potential manmade or natural disasters. This plan is considered an incident response annex as noted in the diagram below (Figure1).

FIGURE 1: NATIONAL RESPONSE FRAMEWORK (NRF) DOCUMENT FLOW CHART



Source: National Response Framework, 2008.

Under the NRF, DHMH is responsible for the coordination of the public health and medical (Emergency Support Function 8) resources required in response to a disaster or catastrophic incident.

The NRF is used as the basis for the design of this plan. The plan is divided into three parts:

- Part I: Prepare
- Part II: Respond
- Part III: Recover

In addition, the plan follows a tiered approach to assist in identifying triggers for activating specific resources to respond to the disaster or catastrophic incident. For example, when would the Governor declare a State of Emergency? The answer is not a simple one and would be dependent on the specific manmade or natural disaster being addressed. However, the triggers proposed in this plan would serve as guides to assist the State, local health departments and healthcare facilities as to when it might be prudent to request additional staff, medication, and other resources to be able to continue to provide healthcare and other key services to the residents of Maryland. The triggers tend to be incident-specific, so three scenarios from the NRF are used in this plan for reference and as examples. The three scenarios that are used include: Anthrax, mass casualty/mass fatality incident, and pandemic influenza. The scenarios are noted in the table below.

Table 1: Relationship of Scenario Sets to Planning Scenarios

Key Scenario Sets	National Planning Scenarios
1. **Explosives Attack –** Bombing Using Improvised Explosive Device	• **Scenario 12:** Explosives Attack – Bombing Using Improvised Explosive Device
2. **Nuclear Attack**	• **Scenario 1:** Nuclear Detonation – Improvised Nuclear Device
3. **Radiological Attack –** Radiological Dispersal Device	• **Scenario 11:** Radiological Attack – Radiological Dispersal Device
4. **Biological Attack –** *With annexes for different pathogens*	• **Scenario 2:** Biological Attack – Aerosol Anthrax • **Scenario 4:** Biological Attack – Plague • **Scenario 13:** Biological Attack – Food Contamination • **Scenario 14:** Biological Attack – Foreign Animal Disease
5. **Chemical Attack –** *With annexes for different agents*	• **Scenario 5:** Chemical Attack – Blister Agent • **Scenario 6:** Chemical Attack – Toxic Industrial Chemicals • **Scenario 7:** Chemical Attack – Nerve Agent • **Scenario 8:** Chemical Attack – Chlorine Tank Explosion
6. **Natural Disaster –** *With annexes for different disasters*	• **Scenario 9:** Natural Disaster – Major Earthquake • **Scenario 10:** Natural Disaster – Major Hurricane
7. **Cyber Attack**	• **Scenario 15:** Cyber Attack
8. **Pandemic Influenza**	• **Scenario 3:** Biological Disease Outbreak – Pandemic Influenza

Source: National Response Framework, 2008.

Further, the plan describes actions taken across the healthcare spectrum, by governmental agencies and non-governmental agencies to:

- Plan for a large scale medical emergency requiring a significant increase in hospital admissions and emergency medical services;
- Maximize available resources; and
- Acquire needed resources for increasing surge capacity and capability before and during an event.

In its current draft, the Medical Surge Plan consists of both planning guidance and operational response components. The Department of Health and Mental Hygiene's (DHMH) Office of Preparedness and Response (OP&R) will have responsibility for periodically reviewing and updating sections of this plan to ensure that the information contained within the document is consistent with current knowledge, best practices, changing infrastructure, and related public health and medical practice. This plan provides for sufficient flexibility to account for the unknown nature of public health and medical emergencies and the needs of different stakeholders. While designed as a State plan, the plan attempts to respect the differences and needs at the various jurisdictional levels to allow for some flexibility in the design and implementation of the local versions of this plan.

PLAN ASSUMPTIONS:

There are five (5) plan assumptions based on the potential scenarios mentioned above. These assumptions help to define the limits and scope of the plan. Moreover, although there may be activities that are part of the standard operating procedures for a healthcare entity, this plan is not designed to address or replace them. Rather, this plan is designed to build upon those procedures and to be a vehicle for planning and sharing resources across healthcare entities in the State and the nation, if needed.

Specific assumptions are as follows:

- **Healthcare entities are reporting extremely large volumes of patients.** The increase in patients may be related to a sudden increase as might be seen in a mass casualty or mass fatality incident. However, it could also be seen in a situation such as pandemic influenza, where there might be a gradual increase that then peaks very quickly and is sustained for a long period of time.

- **Healthcare entities and local health departments are reporting high staff absenteeism.** Similar to the above assumption, this could occur in a very short-time frame in a mass casualty incident depending on the location a type of disaster. However, this is a concern with healthcare and public health staff in the case of an influenza pandemic. These are employees who might become exposed early on in a pandemic because of the nature of the work and possible contact with persons who are ill or exposed to person who are ill.

- **Healthcare systems are requesting assistance from the State.** This assumption moves the size of the incident up along the tier levels that will be discussed in Chapter 3 of this plan. As the tiers become expanded more local, regional, State, and ultimately, federal assets are needed to contain or mitigate the disaster.

- **The State is moving towards requesting additional assets from neighboring states and/or the federal government.** Builds on the tier levels involved from the prior planning assumption.

- **The Governor or designee has declared a catastrophic health emergency and/or a state of emergency**. Many of the recommendations within this plan are based on the premise that a catastrophic health emergency has been declared. This plan is not the plan designed for daily standard operating procedures, but rather a plan to be activated in a major disaster or catastrophe.

PART I: PREPARE

CHAPTER 2:

FRAMEWORK FOR DECISION-MAKING

PART I: PREPARE

CHAPTER 2: FRAMEWORK FOR DECISION-MAKING

PREPAREDNESS:

Planning is a key element of preparedness. Other activities that are linked to the planning process include: training, exercises and evaluation. This section focuses on the factors. The "Preparedness Cycle" from the National Response Framework as seen in Figure 1 below depicts the importance and interrelatedness of planning, training, exercising and evaluating activities for building preparedness capability. Expanding our preparedness efforts beyond capacity building to the capability level is a major step and is the framework for developing operational plans and protocols.

FIGURE 2: THE PREPAREDNESS CYCLE

Source: National Response Framework, 2008.

PLANNING:

The planning process involves an organized approach to using the National Response Framework as the backbone for the operational plans. Planning also requires bringing together the stakeholders and partners to determine roles and responsibilities and to identify shared resources. Tables 1-5 identify roles and responsibilities for specific preparedness partners during the planning process for public health and medical surge. These roles and responsibilities should be re-assessed on a regular basis and modified as needed. It is also recommended that individual agencies such as local health departments, hospital, and other ESF-8 support partners identify any other roles and responsibilities that may necessary to address ANY local needs.

ROLES AND RESPONSIBILITIES:

TABLE 2: PREPARE
Roles and Responsibilities for DHMH

DHMH
• Establish communication and coordination between ESF 8 partners
• Coordinate the Federal/State Hospital Preparedness Program (HPP) Grant.
• Coordinate the planning and operations for medical surge with hospitals, local health departments (LHD), Maryland Institute for Emergency Medical Services System (MIEMSS), local emergency operations centers (EOC), and Maryland Emergency Management Agency (MEMA) in the event that a disaster renders a hospital inoperable or all hospital capacity is exceeded.
• Coordinate through the Maryland Professional Volunteer Corps (MPVC) Program recruitment of in-state, licensed practitioners who are not on any hospital's medical staff.
• As part of the MPVC Program recruit from retired health care professionals who still hold a license or certificate to practice.
• Provide training for all volunteers recruited under the MPVC Program.
• Lead collaborative efforts with response partners to prepare materials to provide needed health and medical information relating to a biological event or naturally occurring disease outbreak to all preparedness partners.
• Lead collaborative efforts with response partners to prepare risk communication messages for the staff, their families, and the general public.
• Lead collaborative efforts with response partners to prepare press releases.
• Lead collaborative efforts with response partners to prepare website materials.
• Train hotline/call center staff to be ready to be activated as needed.
• Coordinate the planning, activation, and set up of alternate care sites with hospitals, state facilities, long-term care facilities, community health centers, MIEMSS, LHD, and other healthcare entities.
• Coordinate planning, guidelines and implementation process for altered standards of care with medical ethics experts, health care providers, hospitals, state facilities, long-term care

facilities, community health centers, MIEMSS, LHD, and other healthcare entities.
• Develop and provide updated surveillance information and materials to LHDs, such as a user friendly standardized surveillance questionnaire form
• Formulate and implement infection control based upon the review of the latest scientific literature and the Centers for Disease Control and Prevention (CDC) recommendations for healthcare workers.
• Plan for mass distribution of antivirals to priority groups or implement the plan to provide medications to the priority groups and/or the general public, if applicable.
• Review State Isolation and Quarantine Plan and supporting legal documents as needed.
• Review internal guidance for the purchase of personal protective equipment (PPE) and maintain an inventory and update PPE stockpile and purchase as needed.

TABLE 3: PREPARE
Roles and Responsibilities for Local Health Departments

Local Health Departments
• Establish communication and coordination between ESF 8 partners
• Coordinate with DHMH to recruit in-state, licensed practitioners who are not on any hospital's medical staff for the local Medical Reserve Corps (MRC).
• Coordinate with DHMH to recruit from retired health care professionals who still hold a license or certificate to practice for the local MRC.
• Health departments should develop mutual aid agreements with other local healthcare entities and ESF 8 partners.
• With guidance from DHMH, coordinate with response partners to prepare materials to provide needed health and medical information relating to a biological event or naturally occurring disease outbreak to all preparedness partners.
• With guidance from DHMH, coordinate with response partners to prepare risk communication messages for the staff, their families, and the general public.
• Coordinate with DHMH to ensure that website materials and messages are consistent

• Coordinate with response partners to ensure that local messaging, including website material, is consistent
• Coordinate with response partners to ensure that a hotline or call center capability exists and could be activated as needed.
• Participate in planning, activation, and set up of alternate care sites.
• Participate in planning, guidelines and implementation process for altered standards of care with medical ethics experts, health care providers, hospitals, State facilities, long-term care facilities, community health centers, MIEMSS, LHD, and other healthcare entities.
• Coordinate with DHMH to assure that posted infection control guidance is current and appropriate for the situation, based on available resources.
• Review State and County Emergency Response Plans, including Isolation and Quarantine, and supporting legal documents.
• Plan for mass prophylaxis of staff and their families, as well as priority groups.
• Review internal guidance for the purchase of PPE and maintain an inventory and update PPE stockpile and purchase as needed.

TABLE 4: PREPARE
Roles and Responsibilities for Hospitals

Hospitals
• Complete the HPP requirements for overarching, level I, level II, and other sub-capabilities.
• Coordinate with DHMH to recruit in-state, licensed practitioners who are not on any hospital's medical staff for the local Medical Reserve Corps (MRC).
• Coordinate with DHMH to recruit from retired health care professionals who still hold a license or certificate to practice for the local MRC.
• Coordinate the implementation of changes in the standard of care (particularly those involving allocation of scarce resources) with hospitals within the jurisdiction or county to ensure that changes are taken at the same time.

• Hospitals should develop mutual aid agreements with other hospitals in the state and along the state borders, if appropriate.
• Prepare materials to provide needed health and medical information relating to a biological event or naturally occurring disease outbreak for staff, patients and their families.
• Prepare risk communication messages for the staff, patients, and their families.
• Prepare website materials.
• Train call center staff to be ready to be activated as needed.
• Participate in planning, activation, and set up of alternate care sites.
• Participate in planning, guidelines and implementation process for altered standards of care with medical ethics experts, health care providers, hospitals, State facilities, long-term care facilities, community health centers, MIEMSS, LHD, and other healthcare entities.
• Implement infection control training materials for healthcare workers.
• In consultation with DHMH, plan for mass prophylaxis to staff and families.
• Review internal guidance for the purchase of PPE and maintain an inventory and update PPE stockpile and purchase as needed.

TABLE 5: PREPARE
Roles and Responsibilities for MIEMSS

MIEMSS
• Coordinate with DHMH to recruit in-state, licensed emergency medical services (EMS) practitioners.
• Coordinate with DHMH to recruit from retired EMS practitioners who still hold a license or certificate to practice.
• Coordinate all emergency medical services and responsibilities for the five EMS regions in Maryland.
• Assist with planning and coordinating the evacuation and transportation for re-locating patients to alternate care sites with DHMH and local health departments.

• Prepare risk communication information and training for EMS systems staff and their families on the specific disaster or emergency.
• Prepare the Facility Resource Emergency Database (FRED) system to be used during the public health emergency.
• Prepare information so that should it become needed the specific directions to the public on actions they should take regarding the use of calling the 9-1-1 for assistance.
• Participate in planning, activation, and set up of alternate care sites.
• Participate in planning, guidelines and implementation process for altered standards of care with medical ethics experts, health care providers, hospitals, State facilities, long-term care facilities, community health centers, MIEMSS, LHD, and other healthcare entities.
• Work with DHMH to offer and coordinate infection control education and training of EMS personnel.
• In consultation with DHMH, plan for mass prophylaxis of staff and families, if needed.

TABLE 6: PREPARE
Roles and Responsibilities for Other Partners

Other Partners
• Coordinate with DHMH to recruit in-state, licensed practitioners who are not on any hospital's medical staff for the local Medical Reserve Corps (MRC).
• Coordinate with DHMH to recruit from retired health care professionals who still hold a license or certificate to practice for the local MRC.
• With guidance from response partners prepare risk communication messages for the staff, their families, and the general public.
• With guidance from response partners prepare website materials.
• Train call center staff to be ready to be activated as needed.
• Participate in planning, activation, and set up of alternate care sites.

- Participate in planning, guidelines and implementation process for altered standards of care with medical ethics experts, health care providers, hospitals, State facilities, long-term care facilities, community health centers, MIEMSS, LHD, and other healthcare entities.

LEGAL AUTHORITY:

In addition, a component of planning is the incorporation of the legal authorities governing the Department of Health and Mental Hygiene (DHMH) in its role as the lead for the Emergency Support Function-8: Public Health and Medical Response. The major statutes relevant to this plan are cited from the Maryland Code under Health-General and/or the Public Safety Articles. The important part of the legal authority under COMAR for this plan is not just what is covered with respect to the day-to-day roles and responsibilities for DHMH.

Md. Code Ann., Pubic Safety ("Public Safety"), Title 14, Subtitle 3A, Governor's Health Emergency Powers provide the Governor of Maryland with the legal authority to address a catastrophic health emergency (CHE). Under Public Safety § 14-3A-01(b), a catastrophic health emergency is defined as "a situation in which extensive loss of life or serious disability is threatened imminently because of exposure to a deadly agent." A deadly agent is defined in Public Safety § 14-3A-01(c) as one of a wide range of biological, chemical, or radiological items that could potentially cause extensive loss of life or serious disability. Table 4 summarizes the categories and provides specific examples of some of the deadly agents that are set forth in this section.

Categories of Deadly Agents

Biological
(Anthrax; Ebola; Plague; Smallpox; Tularemia; Other bacterial, fungal, rickettsial, or viral agent; biological toxins)

Chemical
(Mustard gas; nerve gas; or other chemical agents capable of causing extensive loss of life or serious disability)

Radiation
(Levels high enough to cause extensive loss of life or serious disability)

Powers of the Governor

Public Safety §§ 14-3A-01 to 14-3A-08 grants the Governor authority to act with health emergency powers. The Governor can declare a catastrophic health emergency (CHE), issue a proclamation and issue orders under the proclamation.

The Governor has the power to declare a catastrophic health emergency under Public Safety § 14-3A-02. If the Governor determines that a catastrophic health emergency exists, then the Governor will issue a proclamation. Public Safety §14-3A-02(a). The proclamation will include: the nature of the catastrophic health emergency, the areas threatened and the conditions that led to the catastrophic health emergency or the conditions that made possible the termination of the emergency. Public Safety § 14-3A-02 (b) (1)-(3). The proclamation will last for 30 days after the issuance and is renewable by the Governor for successive 30-day periods during the catastrophic health emergency. Public Safety § 14-3A-02 (c)(2)-(3). The Governor will rescind the issued proclamation when the Governor determines that the catastrophic health emergency no longer exists. Public Safety § 14-3A-02 (c) (1).

For example, during the proclamation the Governor can order:

- Health care providers to participate in disease surveillance, treatment and suppression efforts and to comply with the directives of the Secretary or other designated official. Public Safety §14-3A-03(c).
- An evacuation, closing, or decontamination of any facility. Public Safety14-3A-03(d)(1).
- Individuals to remain indoors or refrain from congregating if necessary and reasonable to save lives or prevent exposure to a deadly agent. Public Safety §14-3A-03(d)(2).

Additionally, the Governor can issue orders to the Secretary of the Department of Health and Mental Hygiene ("Secretary") or other designated official under Public Health § 14-3A-03.

Powers of the Secretary of the Department of Health and Mental Hygiene

Under § 14-3A-03(b) of the Public Safety Article and § 18-905(a)(1) of the Health-General Article of the Maryland Code, during a catastrophic health emergency, the Secretary may 'require individuals to go to and remain in isolation or quarantine' until he determines that the individuals 'no longer pose a substantial risk of transmitting the disease or condition to the public.' The Secretary may exercise the power as necessary to implement an order issued by the Governor under the CHE Act. Under § 18-905(b)(1) of the Health-General Article, even is a CHE has not been declared, the Secretary may exercise the power to order isolation or quarantine if he 'determines that the disease or outbreak can be medically contained by the Department and appropriate health care providers.' The rules and guidelines for isolation and quarantine, including procedures for ordering it, appeal rights, and conditions of confinement, are codified in § 18-906 of the Health-General Article and § 14-3A-05 to the Public Safety Article of the Maryland Code, as well as in COMAR 10.59.01.03, et seq.

After the Governor issues a proclamation, the Governor may also issue orders to the Secretary or other designated official under Public Safety §14-3A-03 (b)-(d) granting the power to:

- Seize immediately anything needed to respond to the medical consequences of the catastrophic health emergency work collaboratively with health care providers.
- Control, restrict, or regulate the use, sale, dispensing, distribution, or transportation of anything needed to respond to the consequences of the catastrophic health emergency.
- Require individuals to submit to medical examination or testing.
- Require individuals to submit to vaccination or medical treatment unless the vaccination or treatment will cause serious harm to the individual.
- Establish places of treatment, isolation and quarantine.
- Require individuals to go to and remain in places or isolation or quarantine until they no longer pose a risk of transmitting the condition or disease to the public.

The Secretary, or other designated, official also has the authority under Health-General § 18-902(1)-(3) to:

- Continuously evaluate and modify existing disease surveillance procedures in order to detect a catastrophic health emergency.
- Investigate actual or potential exposures to a deadly agent.
- Treat, prevent, or reduce the spread of the disease or outbreak believed to have been caused by the exposure to a deadly agent.

Delegated Authority by the Secretary

The Secretary has the authority in Section 2-102(b)(2) of Health-General to establish guidelines and procedures to promote the orderly and efficient administration of the department. Thus, to ensure continuity of the Department's essential business functions when the Secretary is temporarily unavailable, the Secretary established an Emergency Delegation of Authority and a Limited Delegation of the Secretary's Public Health Emergency Authority.

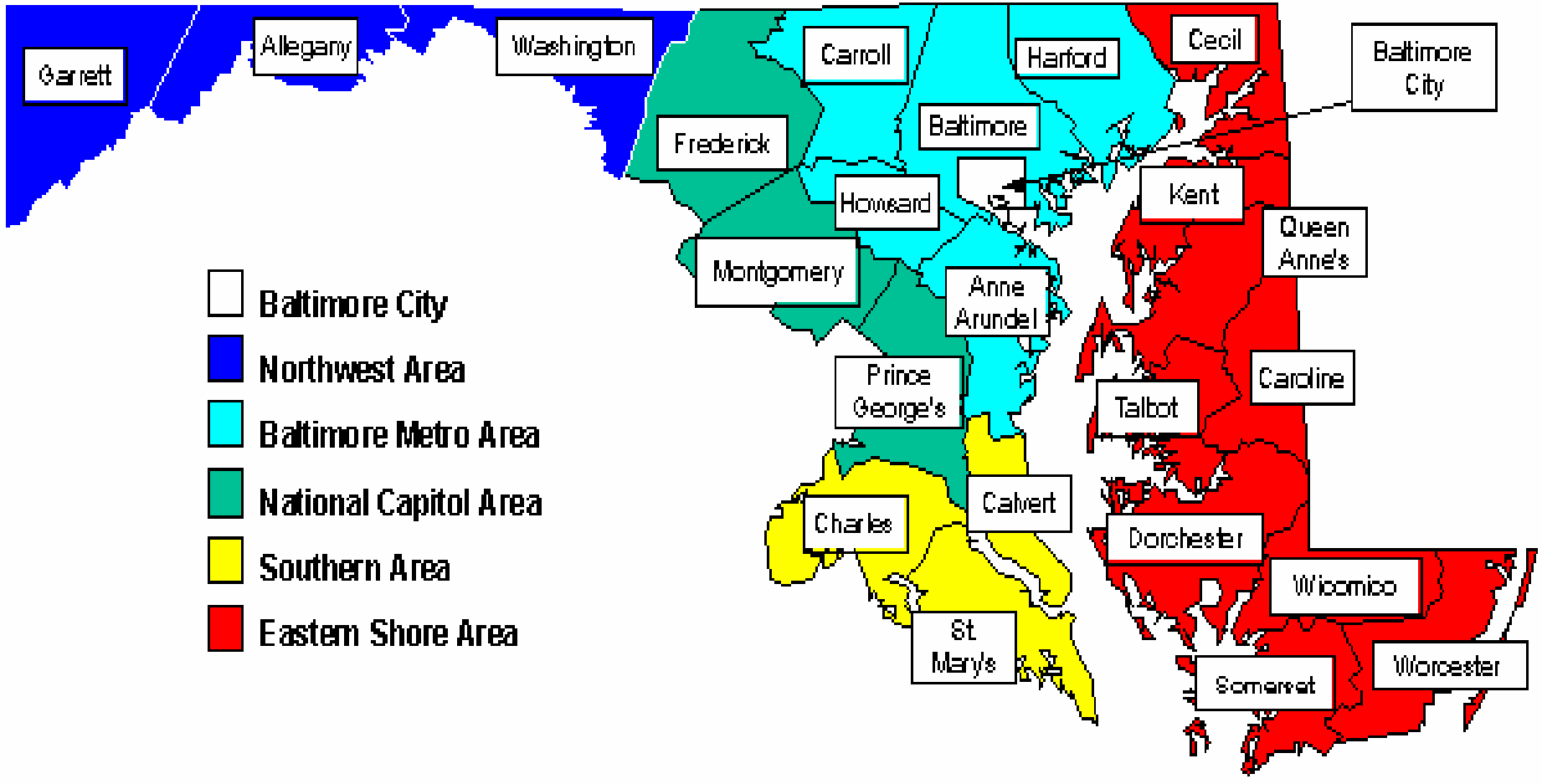
The legal authority combined with using a tiered approach to evaluate the potential magnitude of the disaster are useful for identifying triggers or thresholds in the planning process that can be used to steer the response during the disaster or catastrophe. The national tiers used are described below in this section and potential triggers for response are discussed in Chapter 3 of this plan.

PUBLIC HEALTH AND MEDICAL SURGE RESPONSE TIERS:

Maryland uses a six tiered response system to provide a framework for coordinating and integrating public health and medical resources into the response of a large-scale emergency. Each of the six tiers depicts a level of public health and medical resource management. An incident will escalate up the tier system as more response organizations, facilities, and resources are needed to respond to the event. The objective of using the tier system is to describe the coordination and management of diverse public health and medical entities involved in planning and responding to a disaster.

The tier system is a guide and not a mandate for how the health care community should seek additional resources for managing a medical surge event. Because counties in Maryland have a wide range of resources, what constitutes an emergency in one county is not problematic in another. Jurisdictions will not necessarily fall into the same response tier at the same time during an emergency. In an event affecting multiple jurisdictions in the State, a smaller jurisdiction may have an increased need to move up the tier system and reach out to other jurisdictions for additional resources as compared to a larger jurisdiction. The converse could be true as well depending on the type of emergency. The map of the State of Maryland below is included as Figure 2 to provide a frame of reference for both the 24 jurisdictions in the State and the 5 regions.

Figure 3: MAP OF MARYLAND BY JURISDICTION AND REGION



DESCRIPTION OF THE TIERS:

Tier 1: Single Healthcare Facility Response

Tier 1 corresponds to hospitals, healthcare systems, private physician offices, and outpatient clinics managing an incident at the single facility level. Emergency Medical Services (EMS) may be included in Tier 1 if called on to provide field-based medical care or to otherwise support the facility in an emergency.

During a Tier 1 event, an incident will only affect a single healthcare facility and that facility can manage the response without assistance from others. The healthcare facility increases its surge capacity and capability by operating according to its emergency operations plan and internal procedures, using all available internal facility resources, expediting discharge procedures, and postponing elective procedures. Healthcare facilities may also work with DHMH, the local health departments, local health care officials and MIEMSS to coordinate a system for patient re-routing and management.

Tier 2: Jurisdiction Response

A Tier 2 event involves two or more healthcare facilities within a single jurisdiction combining their medical and health assets to coordinate their response activities. In addition to hospitals, this healthcare coalition may include long-term care or alternative treatment facilities, private physician offices, clinics, and any other health or medical asset that may be brought to bear during major medical response.

During a Tier 2 event, medical surge capacity and capability are increased by moving medical resources (e.g., personnel, facilities, equipment, and supplies) to the sites of greatest need. This is accomplished through already established mutual aid and cooperative agreements between healthcare facilities.

Healthcare facilities would also work with local public health officials and the healthcare facilities emergency managers to coordinate and integrate information sharing and resource management. A communication system such as the Facility Resource Emergency Database (FRED) could be used to locate and coordinate available resources at other facilities within the county.

Tier 3: Intrastate Regional Response

Tier 3 involves incidents affecting more than one jurisdiction within the State of Maryland. Therefore, DHMH has the responsibility as the lead for the State and would be activated to coordinate the public health and medical response (ESF-8). A Tier 3 event involves potentially multiple healthcare facilities crossing jurisdictional lines for

resources. Responding to a Tier 3 incident requires coordination and integration of the healthcare facilities with other response disciplines (e.g. public safety, emergency management) to maximize regional surge capacity and capability. It requires recognizing public health and healthcare assets as vital members of the responder community that will participate in management, operations, and support activities. During such a response, public health and medical disciplines must move from a traditional support role to being part of a unified incident management system.

Many jurisdictions in the State have mutual aid agreements with other jurisdictions to provide resource assistance when needed. Most requests for assistance will occur through the Maryland Emergency Management Assistance Compact (MEMAC). DHMH, the specific healthcare facilities, local public health and emergency management partners would coordinate with the Maryland Emergency Management Agency (MEMA) should there be a need to request assistance through the MEMAC.

Tier 4: State Response

Tier 4 involves State-level action supporting Tiers 2 and 3 by coordinating resource requests among all locally affected areas of the State. The ESF-8: public health and medical response would be activated. DHMH will coordinate with each jurisdiction, MEMA, and other partners to identify needs and distribute health and medical resources to the areas most affected. DHMH, MIEMSS, and MEMA will coordinate and deploy multiple emergency management teams based upon the needs generated by an emergency event.

In a Tier 4 event, the Governor may declare a State of Emergency and may activate the State National Guard to assist with response. By declaring a State of Emergency, Catastrophic Health Emergency, or Public Emergency, the Governor can also suspend or modify existing law to provide needed relief and/or use temporary emergency authority to take control over persons and property in order to save lives and protect property.

Tier 5: Interstate Response

Tier 5 involves interstate resource coordination to respond to health and medical emergencies. Resource sharing and mutual aid in a Tier 5 event will likely occur through the Emergency Management Assistance Compact (EMAC). The State is a signatory to the EMAC and may request and receive resources and aid from other states through the EMAC process.

Another method of interstate resource coordination may involve activation of formal or informal Memoranda of Understanding (MOUs) or mutual aid agreements between healthcare facilities in neighboring jurisdictions along the State's borders. For example, if a healthcare facility in a jurisdiction is overloaded, it might move from Tier 2

(Jurisdictional Response) to Tier 5 (Interstate Response) by re-routing patients to a healthcare facility across state lines (i.e. Delaware, Pennsylvania, West Virginia, the District of Columbia, or Virginia). This interstate transfer might occur because healthcare facilities in neighboring states might be physically closer than the hospitals in adjoining Maryland jurisdictions.

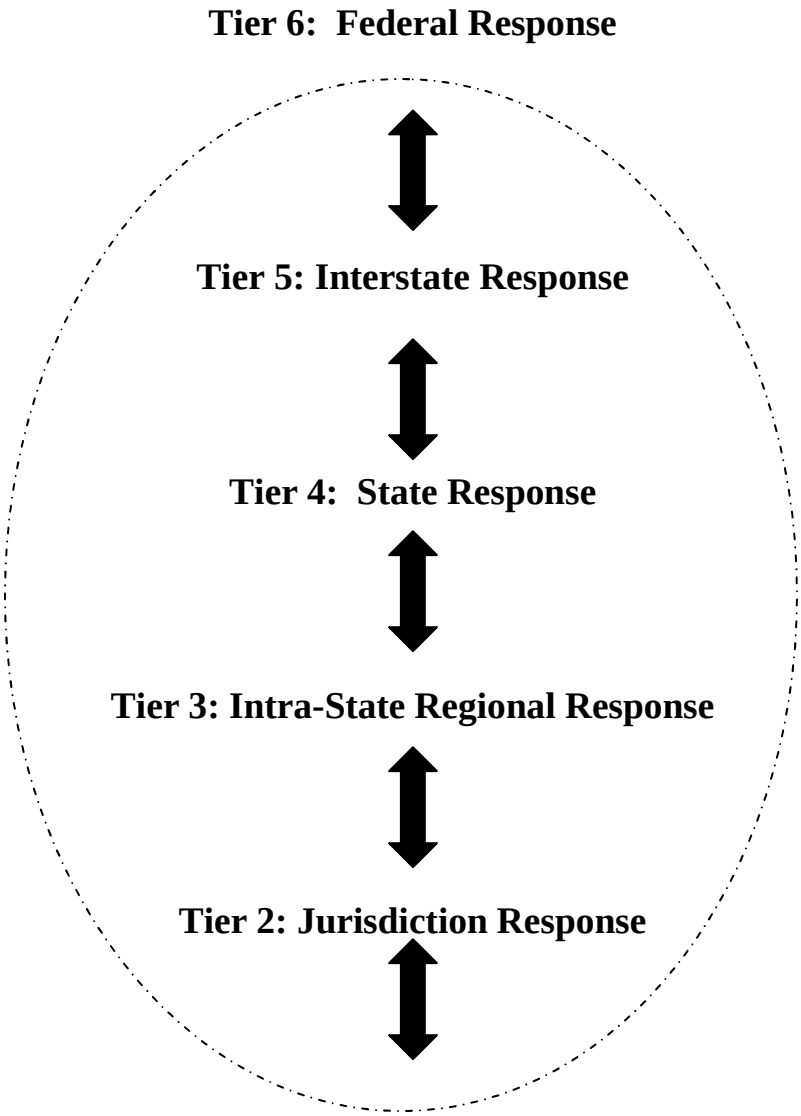
Emergency managers for a healthcare facility may also make direct requests for specialized resources from other facilities in other states. For example, a hospital providing burn care may directly contact other burn centers across the country to request specialized resources such as skin for grafts and to arrange for delivery. This would occur because a state may have a limited amount of specialized health care facilities and resources, and depending on the nature of the event, the only option for accessing such resources is through a request to other specialized facilities across the country. However, all of these requests must come through DHMH and MEMA prior to being initiated so that there is a coordinated response for the State.

Tier 6: Federal Response

A Tier 6 event involves the integration of Federal health and medical assets to support State authorities during a State of Emergency, Catastrophic Health Emergency, Federal Public Health Emergency, or Incident of National Significance. At this level, the Governor can request a federal disaster or emergency declaration through Federal Emergency Management Agency (FEMA), or in certain circumstances, make a direct request to the Secretary of the Department of Health and Human Services (DHHS) or other federal agency to receive federal assistance. Federal assets are organized for response under ESF-8 of the National Response Framework (NRF). The federal government may either partially or fully implement the NRF in the context of a threat, anticipation of a significant event, or in response to an incident requiring a coordinated Federal response.

Figure 4 demonstrates the interplay among the tier system. It is also worth noting that an incident may escalate rather quickly and may bypass tiers. For example, an influenza pandemic has broad geographic implications and will involved every tier discussed above.

FIGURE 4: HEIRACHY OF THE SIX RESPONSE TIERS



TRAINING:

As part of the Office of Preparedness and Response (OP&R) workforce development priority funded through the Centers for Disease Control and Prevention (CDC) Public Health Emergency Preparedness Cooperative Agreement, this office has the responsibility for coordinating preparedness training for DHMH staff, other state employees, local health departments, other preparedness partners and the general public.

Further, this role is expanded to include hospitals, other healthcare entities and providers as part of the Overarching Capabilities under the federal Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program (HPP) Grant. All staff and the preparedness partners are expected to be compliant with the National Incident Management System (NIMS) training requirements. The level and type of NIMS training required is determined by the agency's functions and level of responsibilities. Within the agency, the staff may be required to have different levels of training based on specific roles and responsibilities.

The response to a public health emergency will require both routine and specialized emergency operations, often in an area potentially contaminated with hazardous materials. Although, it is not anticipated that public health and medical staff will be responsible for entering the "hot zone", it is important to be trained to be aware of the exposures. Staff may potentially treat patients who have been victims of a mass casualty event and need to be aware of these situations to provide the best possible care and to protect themselves from any potential on-going exposures from the patient. Therefore, it is vitally important to assure that response personnel are adequately trained to fulfill their responsibilities without endangering their safety and the safety of others. This includes training emergency services and health care personnel to recognize a possible terrorist event, as well as training those who would respond to that event. The goal is to train prior to an emergency.

However, there is the potential for new and emerging diseases and in the event that the emergency is related to a novel or unfamiliar exposure, DHMH will work with the CDC and other subject matter experts to obtain and/or develop training for public health and health care providers that addresses the specific emergency.

Specialized training maybe developed as needed to address gaps or to address new knowledge in this emerging field of preparedness and response. Several examples of training that has been developed and could be useful for public health and medical surge are described below.

Public Health Response Training

The OP&R offers multi-level response training, through a 3-part series called, Public Health Response Training (PHRT). PHRT is divided into a basic, intermediate, and advanced course to equip public health personnel in emergency-related response. The

courses vary based on the roles and responsibilities that key personnel are expected to demonstrate during an emergency.

The Office of Preparedness and Response Annual Update

OP&R conducts an annual emergency preparedness training that provides DHMH staff, State agency staff, health officers, public health emergency planners (PHEPs), other local health department (LHD) staff to be updated on international, federal, state and local public health preparedness priorities and developments. The training format also provides for sharing and networking through the use of exhibits and presentations from DHMH, the LHDs and other preparedness partners.

Incident Command System /National Incident Management System

All staff supported under federal funds are expected to have completed the minimum required courses as noted below for NIMS. This training is important to make sure that all staff responding to a disaster or catastrophic situation are able to use the ICS/ NIMS structure.

Minimum Requirements

- ICS 100
- ICS 200
- ICS 700
- ICS 800

Recommended – (Required for selected individuals)

- ICS 300
- ICS 400

Personal Protective Equipment Training

Personal Protective Equipment (PPE) training is generally included as part of the PHRT training. However, additional PPE training or refresher training may be provided as needed, especially for volunteers and additional staff being activated during an emergency.

EXERCISES:

All DHMH plans are exercised annually in collaboration, where possible, with other local, state, and federal preparedness partners. It is expected that as in the past future exercises will include testing this version of the Public Health and Medical Surge Plan. The exercise type may vary from table-top, functional, to full-scale. The exercise will bring statewide preparedness partners together representing several dimensions of a public health and medical response.

All DHMH exercises must be planned by following the guidelines of the Homeland Security Exercise and Evaluation Program (HSEEP). Exercise Evaluation Guides (EEGs) should be used when appropriate. EEGs provide standards for assessing objectives through the execution of tasks and activities linked to each target capability. All Statewide exercises should strive to obtain buy-in from the appropriate jurisdictions/agencies, senior officials, and other local/state/federal preparedness partners. All exercises must also include a project management timeline, activity milestones, and an exercise planning team.

DHMH exercises will assess, address, and evaluate a number of public health and medical initiatives in Maryland including, but not limited to:

- Alternate healthcare disaster configuration for all hazards
- Alternate site for delivery of care
- Biosurveillance, Enhanced Surveillance and Lab Surveillance
- Communications
    - Redundancy equipment
    - Interoperability
    - WebEOC, Facility Resource Emergency Database (FRED), and Radio Amateur Civil Emergency Service (RACES), etc.
- Community Emergency Response Team (CERT) use as a neighborhood epidemiological data gathering and service delivery component (Window Needs Assessment)
- Disaster modification resulting from increased patients
- ESF-8: Public Health and Medical Coordination for Surge
- Evacuation
- Fatality management
- Hospital readiness for medical surge
- Internal medication dissemination (a Point of Dispensing evaluation)
- Isolation and Quarantine practice with emphasis on Home Quarantine
- Pandemic Influenza
- Public information Campaign and Joint Information Center
- Regional and Federal Asset request and processing
- Sheltering-in-Place
- Strategic National Stockpile (SNS) Plan requirements

Based on areas for improvement identified during the exercise, an after action report (AAR) and an improvement plan (IP) will be developed. The AAR and IP will provide concrete steps that can be used to remedy deficiencies or shortcomings observed during exercises. Exercises are also an opportunity to identify unmet objectives and best practices that can be shared with other jurisdictions and organizations to help build the State's overall level of preparedness.

EVALUATION:

All exercises shall be evaluated by using the Homeland Security Exercise and Evaluation Program (HSEEP). HSEEP provides a common evaluation policy and program with guidance that constitutes a national standard for exercises. HSEEP includes consistent terminology that can be used by all exercise and evaluation planners. For more information and details on the latest HSEEP guidelines (February 2007), please follow this link:

https://hseep.dhs.gov/support/VolumeIII.pdf

Exercise evaluation maintains a fundamental link to improvement planning because it assesses the performance of the plan in an exercise and identifies strengths and areas for improvement. Through the exercise evaluation process, IPs are developed for areas that require it. The IPs will assign responsibility for correcting deficiencies or shortcomings observed during a given exercise. Exercise evaluation is an integral part of this operational plan.

PART II: RESPOND

CHAPTER 3:

PUBLIC HEALTH AND MEDICAL SURGE

PART II: RESPOND

CHAPTER 3: PUBLIC HEALTH AND MEDICAL SURGE

RESPONDING:

This chapter focuses on the activities and responses needed during a disaster or catastrophe that requires public health and medical surge. A key element for a coordinated response is identifying the roles and responsibilities for the agencies that are part of the Emergency Support Function 8: Public Health and Medical response system. DHMH has the lead for this emergency support function and coordinates the public health and medical response for the State.

ROLES AND RESPONSIBILITIES:

The resources and the level of response needed are triggered by the specific tiers as described earlier in this plan. The roles and responsibilities are characterized below for selected response partners. Roles and responsibilities may be added or modified as needed depending on the particular incident. Further, additional response partners may be identified and their roles and responsibilities may be included in the plan as well. These roles and responsibilities are detailed at the end of this chapter.

DHMH:

During an emergency that requires public health and medical surge, DHMH is responsible for coordination of all aspects of public health and medical response in the state. One of the key roles of DHMH during an emergency is to maintain statewide situational awareness regarding the public health and medical response. DHMH accomplishes this through communication and coordination with local health departments, hospitals and other healthcare facilities, state agencies including MEMA and MIEMSS, as well as other organizations and private partners.

Decision Making:

In leading the public health and medical response efforts, DHMH will provide updates and advice to the Secretary of Health, other state leadership including the Governor, and federal partners including the CDC. DHMH may advise leadership regarding declaration of a catastrophic health emergency, deployment of the SNS, implementation of public health measures such as community mitigation and social distancing strategies, and request of federal assistance.

Guidance and Communication:

DHMH will lead the coordination of public health risk communication messages to the media and the public throughout the event to ensure that messages are clear and consistent among all partners. In addition, DHMH will maintain communication with all partners, especially local health departments and hospitals, to provide guidance on issues such as surveillance, investigation, specimen collection, infection control guidelines, altered standards of care, and other public health recommendations.

Assistance:

A major responsibility of DHMH is to monitor the status of public health and medical resources across the state. If necessary, DHMH may activate the MPVC to support areas experiencing inadequate staff and personnel. DHMH may also state caches of resources such as medical equipment and supplies, as well as medications to aid in response efforts across the state. During an emergency requiring surge that exceeds the state's capabilities, DHMH will seek assistance from other states as well as the federal government.

LOCAL HEALTH DEPARTMENTS:

Coordination of the local public health and medical response efforts is the responsibility of the local health departments. Local health departments maintain communication with their local hospitals and other healthcare facilities, local emergency management agency, local emergency medical services, and other local partners during an emergency to ensure an effective response at the local level.

Guidance:

Local health departments will be critical in disseminating public health guidance to hospitals and other healthcare providers on issues, such as triage and treatment protocols, sample collection, and reporting requirements. In support of hospitals and other healthcare facilities, local health departments may need to provide guidance to assist in responding to increased surge including changes to protocol for triage and recommendations to open an alternate care site. During a surge event, collaboration among all local partners is critical in maintaining situational awareness at the local level. Local health departments will need to provide guidance and information to DHMH regarding the status of local resources and the need for additional staff and supplies to maintain an appropriate response.

Communication:

With guidance from DHMH, local health departments should coordinate with their local partners to ensure that risk communication messages to the public are consistent. Local health departments may need to establish a mechanism for the public to obtain

information, such as a hotline or call center. Critical communication will be required in events requiring distribution of medication to the public, in which local health departments will need to provide clear messages to the public about when and where to go to pick up their medications at the POD. In addition, hospital surge during an event may require the opening of an alternate care site, therefore local health departments will need to collaborate with their hospitals to assist in activation and public messaging to direct individuals to the appropriate locations to receive care.

ACUTE CARE HOSPITAL SURGE CAPACITY:

OBJECTIVES:

- Maximize care for the greatest number of people while meeting at least minimal obligations for care to all who are in need.
- Prepare Emergency Departments (EDs) for high patient volume during a mass casualty event (MCE).
- Plan for limited availability and increased need for equipment and supplies.
- Increase the efficiency of ED and hospital operations so that EMS systems are not adversely affected.

ASSUMPTIONS:

1. MCEs or disasters will create either an immediate and sudden impact for a short amount of time (e.g. explosive event), or will create a sustained impact over a long period of time (e.g. pandemic flu). Both types of impact require different approaches to increasing surge capacity.

2. In the case of amass casualty event, hospital will not have access to many needed resources and will have to make difficult decisions about providing an appropriate standard of medical care in an environment of scarce resources.

3. Hospitals operate at or above capacity for emergency and trauma services on a daily basis.

4. Patients may self-refer to the hospital of their choosing for a number of reasons, including proximity, insurance coverage, and personal preference. It is difficult to predict which facilities will become a focus of care and likely that many, if not all, hospitals will become primary institutions. For this reason, every hospital, regardless of specialty, must prepare to care for all types of patients.

5. Local and State health authorities will share information regarding response operations with medical facilities via the Health Alert Network (HAN) (when fully implemented), radio communications from the EMRC / SYSCOM, teleconference calls, e-mail, fax, FRED, and VOIP (once fully implemented).

CURRENT ACUTE CARE HOSPITAL CAPACITY:

To help develop planning for hospital capacity and emergency response, planners should review the most current Maryland Acute Care Hospital Statistics to determine statewide and local capacity and possible resource sharing and allocation during a MCE.

Triage, clinical evaluation, and admission procedures for patients with possible contagious disease

During a contagious disease outbreak, hospital EDs and outpatient offices might be overwhelmed with patients seeking care. Staff will need to use triage to identify persons who might have an infectious or contagious disease, separate them from others to reduce the risk of disease transmission, and identify the type of care they require (home care or hospitalization). The hospital must ensure that patients who arrive by ambulance or self-refer are not able to enter the hospital without receiving a screening for infectious disease.

Recommendations:

1. Develop a strategy for triage, diagnosis, and isolation of possible patients. Consider the following triage mechanisms:
    a. Using phone triage to identify patients who need emergency care and those who can be referred to a medical office or other non-urgent facility.
    b. Assign a "triage coordinator" to manage patient flow, including deferring or referring patients who do not require emergency care.
    c. Assign separate triage and waiting areas for persons exhibiting signs and symptoms consistent with the disease of interest.

2. Review procedures for the clinical evaluation of patients in the ED and in outpatient medical offices to facilitate efficient and appropriate disposition of patients.

3. Review admission procedures and streamline them as needed to limit the number of patient encounters in the hospital (e.g. direct admission to an inpatient bed).

4. Identify a "trigger" point at which screening for signs and symptoms of the contagious disease in all persons entering the hospital will escalate from passive (signs at the entrance) to active (direct questioning). In addition to visual alerts, potential screening measures might include priority triage of persons with respiratory or other symptoms and telephone screening of patients with appointments.

5. Establish a site outside of the ED where persons can be seen initially and identified as needing emergency care or referred to an outpatient care site for diagnosis and management.

When confronting an infectious disease outbreak, public health officials will issue updated guidance on prevention, containment, and treatment protocols and procedures. Trained medical personnel will triage and assess symptomatic patients in non-hospital settings as a precaution against hospital transmission. Hospitals must also determine in advance the criteria and procedures they will use to limit access to the facility if a contagious or infectious disease spreads throughout the community.

Preventing disease from entering hospitals may greatly assist with decreasing the need for more scarce resources. Consider the following options:

- Define "essential" and "non-essential" visitors with regard to the hospital and the population served. Develop protocols for limiting non-essential visitors.

- Consider placing on administrative leave all non-essential personnel who cannot be reassigned to support critical hospital services.

- Develop criteria or "triggers" for temporary closing of the hospital to new admissions and transfers. The criteria should consider staffing ratios, isolation capacity, and risks to patients. As part of this effort, hospital administrators should:

    - Consult with state and local health departments and MIEMSS on their recommendations for changes to hospital admission, discharge, and transfer criteria
    - Determine who in the hospital will make decisions about temporary closings and how, when, and to whom to communicate these decisions

- Determine how to involve hospital security services in enforcing access controls. Consider meeting with local law enforcement officials in advance to determine what assistance, if any, they can provide. Hospitals may have to consider the use of other security resources.

Bed Capacity:

Recommendations:

1. Review and revise admissions criteria for times when bed capacity is limited. Refer non-event related ambulatory patients away from ED.

2. Implement rapid patient discharge plans for patients who do not require ongoing inpatient care. These plans should involve transferring patients to other facilities or

sending them home. Establish a patient discharge holding area to free up bed space during the discharge process.

- Work with home healthcare agencies to arrange at-home follow-up care for patients discharged early and for those whose admission was deferred because of limited bed space.
- Ensure that patients have family or friends who could provide basic care to the patient in the home setting.
- Transfer patients to other local or outlying health care facilities who can accept patients who do not need critical care. Hospitals need to develop Mutual Aid Agreements (MAA) or Memorandums of Understanding (MOU) with other facilities for these arrangements.

3. Develop criteria or "triggers" for temporarily canceling all routine services or elective admissions and surgeries. In some situations, "elective" may include procedures that are necessary but could be delayed for a short period of time (e.g. a few days to a week) without substantial harm to the patient.

4. Determine whether to transfer patients who require emergency procedures to another hospital.

5. Consult with hospital licensing agencies on plans and processes to expand bed capacity during times of crisis. These efforts should take into account the need to provide staff and medical equipment and supplies to care for the occupant of each additional hospital bed.

6. Convert outpatient procedure beds and clinics into inpatient beds and care areas.

7. In cases involving infectious or contagious diseases, develop policies and procedures for shifting patients between nursing units to free up bed space in critical care areas and/or cohort certain types of patients together.
    - This will require identifying areas of the facility that staff could vacate for use in cohorting patients.
    - Consider developing criteria for shifting use of available space based on ability to support patient care needs (e.g. access to bathroom and shower facilities.)
    - Consider developing cohorting protocols based on a patient's stage of recovery and infectivity.

8. Reallocate designated beds to the event: For example, turn post-anesthesia areas that have cardiac monitoring capabilities into intensive care units. Consider using hospital based same day surgical suites for the treatment of acute injuries as these suites may have minor surgical supplies.

9. Determine which patients can receive care on a cot or other type of makeshift bed.

10. Create "flex" beds from reserved beds or recently closed beds.

11. Request the arrival of mobile care units (tents, mobile hospitals) that come with makeshift bed capacity. Local, state, or the federal government may have these resources planned for use during an emergency.

12. Activate pre-identified alternate care sites adjacent to the hospital or at another location for use in caring for certain non-critical populations of patients. This will free up bed space for critical patients.

Isolation Capacity:

During an infectious disease outbreak, hospitals may not have sufficient capacity to house all symptomatic and potentially contagious patients in controlled Airborne Infection Isolation Rooms (AIIRS), or negative pressure rooms.

Recommendations:

1. Hospitals that lack adequate AIIR capacity may instead consider cohorting ill patients in traditional patient rooms contained within one section of the facility, thereby creating a single nursing ward. Rooms with additional oxygen outlets that are used on a daily basis as a single bed room can be used to cohort contagious patients.

2. As demand increases, gather patients requiring isolation who are dispersed throughout the hospital into specialized multi-room units. Convert single-patient hospital rooms in these sections into isolation rooms by modifying the ventilation system to create negative pressure flow. Specialized needs for high-level respiratory and isolation units may be "created" by relatively low-cost engineering with the installation of ventilation deflectors that allow for negative air flow to those rooms individually or to a unit. Air flow and air changes can be adapted to provide flexible utilization of non-specialty bed capacity.

3. Hospitals could designate certain sections of the hospital as the treatment unit for certain contagious diseases (e.g. pandemic influenza, SARS). Creating a treatment ward or cohorting patients for certain contagious cases minimizes patient contact, and concentrates specific resources and staff expertise to the units with these patients. Hospitals could then reserve their AIIRs for individuals with the highest risk of transmission.

4. Hospital staff may wish to consider evaluating these patients in newly created or converted facilities that are adjacent to or otherwise separate from the hospital itself. Different approaches to these facilities could include:
   - Building temporary structures with high efficiency filtration systems.
   - Hospital officials could set up large tents to accept patients and convert some existing facilities into specific clinics.

Ventilator Capacity:

Recommendations:

1. Efficient utilization of currently available, non-stockpiled ventilators must occur.
    - Cancel elective surgery and utilize anesthesia ventilators.
    - Allocate ventilators appropriately between hospitals, municipalities, and cities.
    - Request all hospitals to determine the existence and condition of obsolete, yet functional ventilators that could be used in the event of a pandemic or other disaster.
    - Establish a procedure for appropriate distribution of local ventilator stockpiles, if they exist.
    - Make advance arrangements with equipment rental companies to ascertain their ability to supply ventilators.

2. Modify anesthesia machines for use as ventilators.

3. Use ventilator capacity anywhere in the hospital where sufficient oxygen capacity exists (e.g., ED, post-anesthetic care units).

4. If the need for mechanical ventilation overwhelms the staffing capacity, noncritical care professionals will be enlisted to assist in patient care, but only after undergoing some degree of training by respiratory therapists and other critical care specialists.

5. Create a stockpile of ventilators (if possible) and a stockpile of ventilator power sources

6. When short-term ventilation is anticipated, bag-valve-mask ventilation may be a reasonable option, if hospital personnel are available or other persons can be quickly trained to perform this function.

7. Inform DHMH when ventilator are becoming depleted. DHMH will coordinate the distribution of additional state stockpiles or request that the SNS assets be released.

Increasing Space and Resources for Care:

Recommendations:

Hospitals should consider the following options for increasing the amount of space and resources available for care, in addition to those used to create more bed capacity:

1. Reduce of the usual use of imaging, laboratory testing, and other ancillary services.

2. Expand critical care capacity by placing select ventilated patients on monitored or step-down beds; using pulse oximetry (with high/low rate alarms) in lieu of cardiac monitors; or relying on ventilator alarms (which should alert for disconnect, high pressure, and apnea) for ventilated patients, with spot oximetry checks.

3. Convert single rooms to double rooms or double rooms to triple rooms if possible.

4. Re-engineer space and reconfigure layouts of the facility.

5. Cohort patients into sections of the hospital.

6. Use cots and beds in flat space areas in non-traditional places (e.g. hallways, classrooms, lobbies, etc.) within the hospital for non-critical patient care.

7. Establish of mobile or temporary evaluation and treatment facilities (e.g. military mobile hospital) in the community to supplement usual clinic locations. Alternate care sites may be needed within or outside of a hospital, such as a hospital cafeteria or a nearby school, for triage or to receive care for minor injuries.

8. Export patients to another system by transferring them to other institutions in the State, interstate region, or throughout the country. The National Disaster Medical System (NDMS) may assist with transport of patients out of the area.

Decontamination Capacity:

Recommendations:

Ideally, patients are decontaminated at an incident site by the local Hazmat team. However, patients often self-refer and hospitals will not have enough time to call in public safety officials.

1. Consider use of portable decontamination units.

2. Expand fixed facility plumbing.

3. Many hospitals have ambulance pads that are supplied with water and drainage. There are many cost-effective modifications that can be made to such areas that may greatly increase a hospital's decontamination capacity.

4. In events involving large numbers of people, when patient care must take priority over wash water containment, the U.S. Environmental Protection Agency (EPA) Good

Samaritan Rules allow facilities to drain water from decontamination operations into sewers without liability, provided the Environmental Protection Agency local field office is then notified of the event. It is advisable for facilities to consult legal counsel in during the planning phase to check for liability protection offered by the following statutes:

CERCLA 107 (d) (1) – "Good Samaritan" Rule
CERCLA 107 (d) (2) – State and local government release from liability

More information can be found at: www.epa.gov/OEM/docs/chem/onepage.pdf

Treatment for "Crush Injuries"

Some disasters have the potential for causing a high volume of patients with life-threatening "crush injuries." The ability to successfully treat multiple crush injuries and crush-related acute renal failure could save a significant number of lives. Healthcare providers will need to quickly locate and incorporate the use of dialysis machines in response to these types of injuries.

For a list of dialysis centers in Maryland, see http://www.dhmh.state.md.us/mdckd/centers.html.

Response Roles and Responsibilities:

The following tables depict the major Roles and Responsibilities of selected agencies during the six Public Health and Medical Surge Tiers described previously. They are not intended to be an exhaustive list of all actions to be taken by any particular agency in response to a given event. Agency or institution specific Standard Operating Procedures (SOPs), Plans, Agreements, and the nature of the event will determine the actions taken by each agency. The tables represent the complex network of escalating activities and interactions that may occur during the response to public health emergencies.

The activities described in each successive Tier build upon those described in previous ones. The increasing number of items in Tiers 1 through 4 represents the increasing complexity of the event and the increasing level of interaction and coordination required to manage the emergency. After Tier 4 (State Response) is reached the number of activities appears to decrease. This is due to the fact that all available Maryland resources are being utilized and only specific regional and federal assets are being brought in to assist. At this stage of an emergency, planning, coordination, and communication become extremely important to allow for a sustained effective response.

This framework may assist planners in forming an overall picture of a response and the many activities and priorities that guide agencies' and institutions' actions. In developing the operational components of their own Medical Surge Plans, planners should seek to integrate them with the State-level framework as well as with plans developed by other agencies and institutions in their jurisdiction. Ultimately, this will allow for more effective planning, better coordination of activities, less duplication of effort, and a smoother overall response.

TABLE 7: RESPONSE for Tier 1
Roles and Responsibilities by Response Partners

Tier 1	
DHMH	• Contact LHD to gather further information and coordinate response if necessary. • Update and advise the Secretary of Health, other leadership including the Governor, and State Emergency Operations Center (SEOC) on health facility/agency issues. • If necessary, activate infection control plan for handling dead bodies in coordination with the Office of Chief Medical Examiner (OCME) and the State Anatomy Board. • Prepare to activate volunteers for increased staffing capacity. • Disseminate risk communication information to the media and other partners in a timely manner.

Tier 1	
LHD	• Activate the LHD Operations Center as needed. • Review the status of hotline or call center plans to prepare to activate if needed. • Initiate conference calls with county hospitals to share and coordinate information and the status of emergency operations. • Monitor facility resource needs and coordinate with County EOC for assistance requests • Implement materials to help educate healthcare providers about the disaster and update providers regularly throughout the disaster. • Investigate community outbreaks. • Distribute infection control training materials for healthcare workers if needed. • Prepare to provide behavioral and mental health services for health care employees.
Hospitals	• Activate Emergency Operations Plan, Hospital Alert System, and a Hospital Incident Command System as needed • Report via FRED on numbers of patients and levels of critical assets (respirators, PPE, and antivirals) when requested. • Work with LHDs and DHMH to investigate and report special situations. • Activate decontamination units as needed. • Work with healthcare providers on securing volunteers to be used to expand the capacity of traditional triage to alternate areas of existing buildings. • Establish Alternate Care Sites as necessary in coordination with LHDs and other partners • Disseminate risk communication information to the media and other partners in a timely manner.
MIEMSS	• Track and coordinate bed availability and critical medical assets at facilities across the state via FRED. • Use the EMRC / SYSCOM and FRED to coordinate patient transport to minimize hospital overload and maximize the use of other available resources. • Provide EMS systems with information on Alternate Care Sites and health and medical information to protect personnel while on duty.

Tier 1	
Other Partners	• Advise local emergency management agency of resource needs during an emergency.

TABLE 8: RESPONSE for Tier 2
Roles and Responsibilities by Response Partners

Tier 2	
DHMH	• Consider activation of DHMH EOC and whether to operate at the "virtual" level. • Prepare to activate or activate as needed critical resources for epidemiologic surge capacity to include personnel needed to assist with epidemiological investigations. • Activate the Office of the Chief Medical Examiner (OCME), mechanism for receiving timely information on deaths if needed for epidemiological investigation as needed • Work with LHDs to coordinate testing of specimens and samples. • Provide consultation to LHDs and healthcare providers, as needed • Provide for the maintenance of behavioral and mental health services for health care employees. • Prepare for healthcare surge. • Prepare to activate the Maryland Professional Volunteer Corp (MPVC). • Provide needed public health and risk communication messages to the media and public.
LHD	• Activate LHD EOC. • Prepare to activate or activate as needed critical resources for epidemiologic surge capacity to include personnel needed to assist with epidemiological investigations. • Provide for the maintenance of behavioral and mental health services for health care employees. • Coordinate with local EMS agencies. • Assist with coordinating the response to an emergency between the health care facilities in that jurisdiction. • Notify the SEOC and DHMH when local healthcare resources are overwhelmed and request needed assistance. • Notify DHMH when assistance is needed obtaining volunteer medical staff.

Tier 2	
	• Notify regional partners of the event in preparation for the need for assistance.
Hospitals	• Prepare for health system surge. • Provide for the maintenance of behavioral and mental health services for employees. • Regularly update Alert status via County/Hospital Alert Tracking System (CHATS). • Notify the LHD when the facility no longer has the capacity and capability to continue providing care/services, and request needed assistance. • Notify DHMH and LHD when assistance is needed obtaining volunteer medical staff.
MIEMSS	• Coordinate ambulance transport of patients to the appropriate facilities • Coordinate with local, regional, and state partners regarding EMS activities and needs. • Provide for the maintenance of behavioral and mental health services for health care employees. • Coordinate with DHMH, LHD, and hospitals concerning the changes in EMS protocols • Notify the LHD and DHMH when it no longer has the capacity and capability to continue providing care, and request needed assistance.
Other Partners	• MEMA coordinates with DHMH to coordinate acquisition and distribution of resources as they become depleted • Notify the MEMA and DHMH when the agency/ organization no longer has the capacity and capability to continue providing services/care, and requests assistance.

TABLE 9: RESPONSE for Tier 3
Roles and Responsibilities by Response Partners

Tier 3	
DHMH	• Activate the DHMH EOC.

Tier 3	
	• Activate a public call center to provide risk communication along with public information. • Coordinate with MEMA and determine when to activate the DHMH desk at the SEOC. • Work with LHDs and hospitals to disseminate clear messages to providers to encourage expanding triage capacity/hours of operation and to inform public of triage options. • Deploy state caches of equipment and pharmaceuticals to affected areas. • Advise the Governor and the Secretary of Health regarding the need to request the SNS. • Prepare to receive and distribute SNS countermeasures if requested. • Evaluate need for EMAC to expand public health and medical resources. • Coordinate with regional State partners to share information and resources. • Communicate with the SEOC and LHDs to determine the need for volunteers. • Activate and deploy volunteers as demand for volunteers at the local level exceeds local resources. • Consider initiating Altered Standards of Care for the healthcare community • Expedite any necessary approvals for hospitals to temporarily exceed bed capacity and/or establish extension sites to address surge issues. • Work with nursing homes capable of surging capacity to provide temporary emergency approval for increased capacity. • Coordinate public information messaging with the State Joint Information Coordination Center (JICC).
LHD	• Activate LHD EOC. • Prepare to assist in the operation of Alternate Care Sites at the local level. • Coordinate with DHMH and hospitals to disseminate clear messages to providers to encourage expanding triage capacity/hours of operation and to inform public of triage options. • Coordinate with nursing homes capable of surging capacity to provide temporary emergency approval for increased capacity. • Coordinate public messaging with the JICC and DHMH. • Participate in the activation of a public call center to provide risk communication along with public information as needed.

Tier 3	
	• Monitor the status of local health care facilities and provide guidance regarding changed/updated protocols specific to the emergency. • Consider evacuation/shelter in place recommendation for health care facilities. • Activate standing mutual aid agreements between facilities or county health departments. • Contact the SEOC and DHMH to request additional staff and/or supplies to supplement local shortfalls. • Coordinate with DHMH, the hospitals, and MIEMSS to determine when to initiate altered standards of care. • Prepare to activate Points Of Dispensing (PODs) and all associated activities as described in the State and local SNS Plans
Hospitals	• Request approvals for hospitals to temporarily exceed bed capacity from DHMH. • Request guidance on or activation of altered standards of care protocols from LHD. • Consider activating Alternate Care Sites to address surge issues. • Determine need for activation of facility evacuation/shelter in place plans. • Work with DHMH and LHDs to expand triage capacity/hours of operation and to inform public of triage options. • Consider activating hospital staff recall procedures and going to emergency operations status. • Contact LHD to request additional staff for continued operations. • Activate the facility SNS receipt and distribution plan in conjunction with DHMH. Identify priority groups of staff and patients to receive medications/equipment. • Monitor hospital supplies and equipment levels and coordinate re-supply requests with the LHD.
MIEMSS	• Coordinate Regional EMS support services. • Activate standing mutual aid compacts to shift additional staff/resources from unaffected Maryland EMS Regions. Where applicable, request assistance from surrounding States' EMS departments. • Work with DHMH, LHDs and hospitals to disseminate clear messages to providers and the public regarding changes in the 9-1-1 protocols. • Activate FRED to monitor hospital and EMS status in Maryland.

Tier 3	
	• Inform EMS providers on activation of altered standards of care or special triage and treatment considerations. • Coordinate the notification and deployment Maryland EMS providers from public and private companies. • Coordinate with DHMH to access SNS medications for EMS providers.
Other Partners	• Based on guidance from DHMH activate appropriate surge plans and procedures. • Prepare to respond to staff and resource availability requests from DHMH. • Monitor public information regarding the event. • Prepare to support ESF-8 functions. • MEMA coordinates the need for staffing at the SEOC.

TABLE 10: RESPONSE for Tier 4
Roles and Responsibilities by Response Partners

Tier 4	
DHMH	• Activate the DHMH Operations Center if not already done. Recall essential staff for emergency operations. • Advise the Governor and the Secretary of Health regarding the declaration of a catastrophic health emergency and SNS requests. • Advise the Governor and the Secretary of Health on social distancing, quarantine, and isolation measures. • Activate SNS plan and prepare to receive and distribute SNS countermeasures. • Coordinate with the LHDs, hospitals, and MIEMSS to determine when to initiate altered standards of care. • Communicate updates in the guidelines for appropriate use of antivirals/medications. • Distribute state caches of equipment and pharmaceuticals based upon assessment of areas/populations with greatest needs. • Activate behavioral health component of ESF-8 Plan. • Work with MEMA to activate all ESF-8 support agencies and task them with appropriate requests via the SEOC. • Maintain regular contacts with LHDs to maintain situational awareness of

	public health needs throughout the State. • Advise MEMA on need to activate health related EMACs in support of ESF-8 operations. • Staff JICC and maintain DHMH public information officer (PIO) group to monitor media and prepare public statements for the Secretary and Governor. • Consider the needs of at-risk populations in all public messaging and preparedness activities. • Ensure appropriate staffing of the State Public Health Laboratory for potential testing of large numbers of samples. • Provide needed staff in support to local response through the activation of the MPVC. • Activate State Mass Fatality Plan and support the OCME and the State Anatomy Board in their operations. • Evaluate potential long-term needs for this disaster. Begin planning for extended operations and Continuity of Operations (COOP). • Communicate with neighboring states and federal partners in preparation for potential assistance requests. • Evaluate need for EMAC to expand public health and medical resources.
LHD	• Recall essential personnel, open LHD EOC if not already done, and implement emergency operations status. • Activate Continuity of Operations (COOP) Plan. Shut down all non-essential activities and programs and divert staff and resources to essential operations. • Provide risk communication to the public including at-risk populations about the nature of the emergency and appropriate preventive/preparedness actions. • Increase surveillance and case reporting. • Prepare to open and operate Points of Dispensing (PODs) to receive and distribute SNS assets. • Open and staff community shelters as appropriate. • Provide input to DHMH on necessity of implementing of quarantine, isolation, or shelter in place measures in a particular jurisdiction. • Support local medical examiners and funeral directors in the collection, processing, and burial of bodies. • Monitor health care facilities' status and forward assistance requests to DHMH via the SEOC ESF-8 desk. • Issue guidance to private health care providers on triage and treatment

	protocols, sample collection, reporting protocols, and referral criteria. • Prepare to assist in the opening of Alternate Care Sites at the local level. • Work with DHMH, the hospitals, and MIEMSS to determine when to initiate altered standards of care.
Hospitals	• Consider opening Alternate Care Sites. • Initiate decontamination procedures as appropriate. • Initiate emergency triage protocols and activate hospital incident command system. • Discharge stable patients to step-down clinics, cancel elective and non-acute procedures, and prioritize utilization of staff and resources. • Activate emergency contracts where appropriate and utilize FRED to update status of resources and needs. • Prepare to receive SNS assets and distribute to staff and patients on a priority basis. • Work with DHMH, the LHDs, and MIEMSS to determine when to initiate altered standards of care. • Continuously update EMS on status and availability of hospital emergency beds. • Activate mutual aid agreements with other hospitals and contact LHD for transportation requirements. • Coordinate with OCME and State Anatomy Board for proper storage and disposal of bodies if necessary. • Request volunteers from LHD as needed. • Assess staff, supplies and other potential resources available for medical surge. • Implement additional security measures to ensure safety of patients and staff in the facility. • Augment infection control procedures where appropriate and distribute PPE caches to staff and patients as necessary. • Initiate Continuity of Operations (COOP) Plans
MIEMSS	• MIEMSS will notify MEMA and Governor's Office of need to suspend or modify state laws regulating EMS systems. • Activate MIEMSS desk at SEOC.

	• Work with DHMH, LHDs, and the hospitals to determine when to initiate altered standards of care. • Advise DHMH and Governor of potential need for additional out-of-state EMS resources. • Utilize private ambulance companies for additional transportation capacity. • Continuously monitor FRED for updates on status of hospital assets. • Implement mutual aid agreements with surrounding states for access to additional EMS assets.
Other Partners	• Support ongoing ESF-8 operations as requested through SEOC. • Dispatch liaison personnel to DHMH EOC as requested. • Tabulate emergency-related expenditures and staff time for reimbursement. • Coordinate with MEMA to determine the need for assistance from other States under an EMAC. • Activate Continuity of Operations (COOP) Plans and recall essential staff for emergency activities. • Assess need for additional federal assistance.

TABLE 11: RESPONSE for Tier 5
Roles and Responsibilities by Response Partners

Tier 5	
DHMH	• Advise Governor on necessity of requesting a federal disaster declaration from the President of the United States. • Dispatch liaison officers to neighboring States' EOC or establish regular conference calls with partner states for shared situational awareness, planning, and response activities. • Dispatch liaison officers to federal EOCs opened in support of a Tier 4 event. • Ensure appropriate representation is maintained at all EOC throughout the duration of the event. • Coordinate requests for federal aid with other states' executives and health departments. • Prepare to receive, dispatch, and support federal medical assets.

	• Maintain record of staff hours and all disaster related expenditures for potential reimbursement from the federal government. • Advise Governor on implementation of emergency public health measures including law enforcement measures in support of public health activities. • Maintain increased epidemiological surveillance in concert with surrounding states. • Work with Centers for Medicare and Medicaid Services (CMS) to provide regulatory relief where indicated. • Advise Governor on requesting assistance of National Guard to obtain needed resources.
LHD	• Maintain LHD staff rotations to minimize burn-out and absenteeism. • Activate remote work or "telecommuting" solutions if available. • Continue reporting to SEOC on status and needs of jurisdictional health care facilities and infrastructure. • Maintain aggressive public information campaign to control rumors and educate the public on the disaster. • Tabulate expenditures and staff time and resource utilization for reimbursement.
Hospitals	• Continue prioritization of patient care and operation of Alternate Care Sites. • Forward all requests for staff, equipment, and supplies to SEOC. • Monitor operation of all life support and physical plant systems and forward all necessary support requests to the SEOC. • Request any additional security requests to SEOC.
MIEMSS	• Continue to coordinate and prioritize EMS services and forward additional staff and equipment requests to the SEOC. • Ensure FRED system remains operational and share information with health care partners. • Coordinate with federal EMS assets deployed to Maryland. • Issue guidance to providers on the temporary suspension or modification of EMS protocols. • Expedite the credentialing of out-of-state or expired EMS volunteers. • Maintain liaison presence at State and Regional EOCs.
Other Partners	• Monitor needs for additional resources especially as it relates to maintaining the Critical Infrastructure and Key Resources (CI/KR). • Forward requests for resources to the SEOC.

	• Maintain staff rotations to ensure operational readiness. • Respond to ESF-8 requests for assistance.

TABLE 12: RESPONSE for Tier 6
Roles and Responsibilities by Response Partners

Tier 6	
DHMH	• Coordinate with the federal lead for the disaster. • Dispatch liaisons to the appropriate federal EOCs and ensure communication between them and the DHMH EOC. • Triage and prioritize all requests for public health and medical assets made to the federal government. • Maintain enhanced surveillance and laboratory capacity in coordination with regional and federal assets. • Ensure operational planning and begin recovery planning when appropriate. • Participate in national and international surveillance activities as indicated. • Continue to coordinate and monitor the need for public health and medical resources. • Continue to monitor the status of the DHMH staff and resources.
LHD	• Work with DHMH to coordinate the on-going LHD response to the disaster. • Continued increased surveillance and reporting. • Continue to monitor the need for resources. • Begin assessment of recovery needs when necessary.
Hospitals	• Work with DHMH, LHDs, and MIEMSS to coordinate the on-going local healthcare response to the disaster. • Continue to monitor the need for resources especially staff and medical supplies. • Assess facility needs for post-event recovery and forward requests to the SEOC.
MIEMSS	• Continue to monitor the EMS staff and other resources. • Reassign or demobilize EMS assets as necessary. • Begin assessment of recovery needs for the EMS system and forward to the SEOC.

Other Partners	• Monitor needs for additional resources especially as it relates to maintaining the Critical Infrastructure and Key Resources (CI/KR). • Begin assessment of recovery needs and forward to the SEOC when requested.

TABLE 13: RESPONSE for All Tiers
Roles and Responsibilities by Response Partners

All Tiers	
DHMH	• Provide mortality data to CDC as needed to help guide national response measures. • Disseminate public health and risk communication information to the media and other partners in a timely manner. • Provide needed health and medical information relating to the event to all of the preparedness partners. • Monitor the status of the DHMH staff and resources. • Communicate to all partners the heightened need for timely and complete surveillance data. • Provide for the maintenance of behavioral and mental health services for health care employees. • Link with local emergency management office for activation of Medical Reserve Corps (MRC) as necessary. • Provide needed public health and risk communication messages to the media and public. • Provide consultation to LHDs and healthcare providers, as needed • Determine when to activate the DHMH Operations Center. May activate at MEMA Level 3 depending on emergency. • Work with LHDs to investigate and report special situations. • Maintain communication with clinicians, ICPs, LHDs, and others to stay abreast of any infection control issues that arise in healthcare facilities or the community. • Consult with CDC on adverse events and report all adverse events to CDC as needed.
LHD	• Investigate community outbreaks • Conduct enhanced surveillance activities. • Provide consultation and investigation support to healthcare providers in

All Tiers	
	conjunction with DHMH • Update providers regularly throughout the event • Maintain communication with clinicians, ICPs, and others to stay abreast of any infection control issues that arise in healthcare facilities or the community. • Disseminate risk communication information to the media and other partners in a timely manner. • Work with health care provider organizations to provide technical and planning assistance. • Employ FRED to gather and disseminate critical information during major health incidents or mass casualty events. • Verify that previously identified facilities in the community are still available for use as alternate care sites in the event that hospital / health care facilities are overwhelmed. • Coordinate and collaborate with the County Emergency Manager and EMS coordinator to identify alternate means for transporting non-critically ill patients to and between medical facilities. • Assist in establishing alternate care sites, as necessary. • Provide needed public health and risk communication messages to the media and public in coordination with DHMH. • Provide health and medical information relating to the event to DHMH
Hospitals	• Report via FRED on numbers of patients and levels of critical assets (respirators, PPE, and antivirals) when requested. • Work with DHMH to investigate and report potential sentinel cases. • Update providers regularly throughout the disaster • Activate decontamination units as needed. • Maintain communication with clinicians, ICPs, LHDs, and others to stay abreast of any infection control issues that arise in healthcare facilities or the community. • Work with healthcare providers on securing volunteers to be used to expand the capacity of traditional triage to alternate areas of existing buildings. • Employ FRED to gather and disseminate critical information to local, regional, and State partner organizations. • Establish alternate care sites, as necessary. • Plan for mass distribution of antivirals/antibiotics to staff and families, if needed

All Tiers	
	• Collaborate with DHMH in preparing risk communication information for the media and other partners.
MIEMSS	• Activate FRED to gather and disseminate critical information during major health incidents or mass casualty events. • Track bed availability and critical medical assets at facilities across the state via FRED. • Coordinate patient transport and maximize the use of available resources and equipment throughout the EMS system. • Modify EMS protocols as needed and advise EMS jurisdictions of changes. • Provide EMS systems with information on alternate care sites and health and medical information to protect personnel duty.
Other Partners	• Advise local emergency management agency of resource needs

PART II: RESPOND

CHAPTER 4:

RESOURCES AND STAFFING

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CHAPTER 4: RESOURCES AND STAFFING

RESOURCES:

Resources required to support public health and medical surge may include staff, equipment, supplies, facilities, medications and additional funding sources. This section of the plan describes how the resources are requested in an emergency. It identifies mechanisms for obtaining additional staff and other critical resources for surge during a disaster or catastrophe.

OBJECTIVES:

- To identify and deploy healthcare providers and volunteers rapidly to assist with responding to a large scale emergency.
- To temporarily increase the capacity and the capability to organize and utilize local, regional, state, interstate, and federal resources needed to respond to a large-scale emergency while and assuring the health and safety of the population.
- To ensure the health, safety, and welfare of the responder workforce during an emergency.

ASSUMPTIONS:

1. During a large-scale emergency, the demand for healthcare will quickly exceed available staffing resources. Pandemic influenza is a scenario that is a good example of this type of emergency. Note that during the peak of pandemic influenza, it is anticipated that as many as 20 to 25% of healthcare professionals and staff may be absent from work. Increased absenteeism may be due to illness, care giving responsibilities at home, or fear of acquiring illness in the workplace.

2. Patients may require medical care that is only available through a specialized sub-set of providers. This scenario might occur with a mass casualty incident with patients requiring treatment of severe burns, crush injuries or surgical interventions.

3. Large numbers of volunteers may be needed to provide healthcare and also to serve in support roles such as providing meals, linen service, personal care, patient movement for treatment, site cleaning, clerical and administrative work. The responder workforce will include licensed and non-licensed healthcare professionals and other volunteers that will assist in a health and medical emergency. Both of the above examples are situations that could be supported with additional healthcare and lay person volunteers.

4. Appropriate workforce protection guidelines, supplies, and procedures will be available and publicized before and during the event. Catastrophic Health Emergencies require the active

participation of large numbers of personnel and absenteeism will likely be a large problem. Ensuring that appropriate workforce protection measures are in place before the event and are well publicized may alleviate such problems.

IDENTIFYING AND REQUESTING RESOURCES:

The Agency for Healthcare Research and Quality (AHRQ) has developed a number of tools to assist in identifying the additional resources that might be required for hospital surge. These tools can be applied for several different scenarios such as: anthrax, pandemic influenza, and a mass casualty/fatality incident. Each healthcare entity should review these tools and use them to assist in designing its specific medical surge plan. These resources can be found at the following site:

http://www.ahrq.gov/prep/hospsurgemodel/description

For the State of Maryland, during a disaster or catastrophe, public health and medical needs are to be coordinated through DHMH. DHMH is the lead of this Emergency Support Function (ESF-8) and will coordinate with the other preparedness partners who are also part of this emergency support function. In addition, DHMH will coordinate with MEMA, through its representatives at the SEOC. Figures 1 and 2 below depict the process for requesting additional resources during an emergency. This process is used for hospitals, local health departments, other State agencies and preparedness partners.

FIGURE 5: STATE OF MARYLAND PROCESS FOR REQUESTING RESOURCES IN AN EMERGENCY

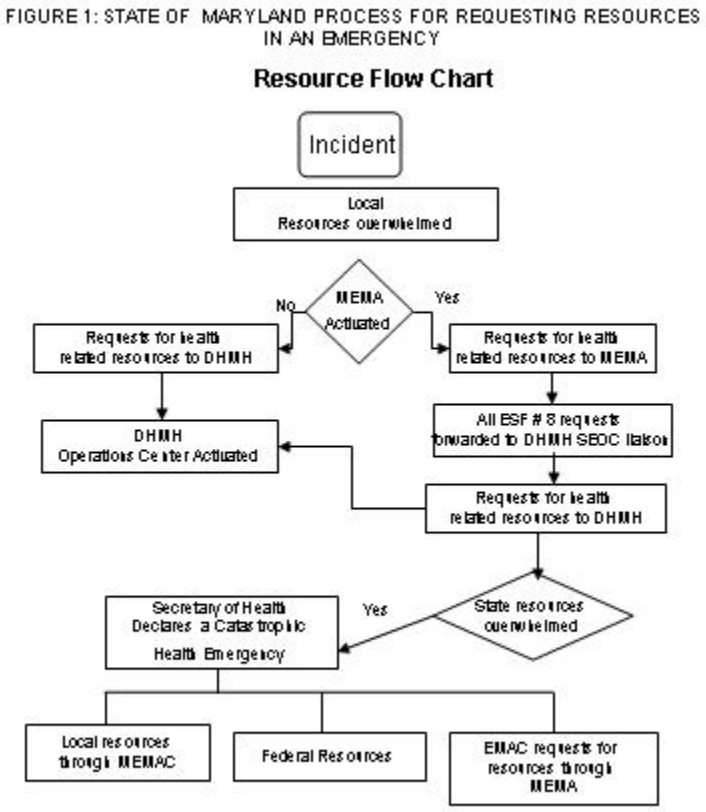
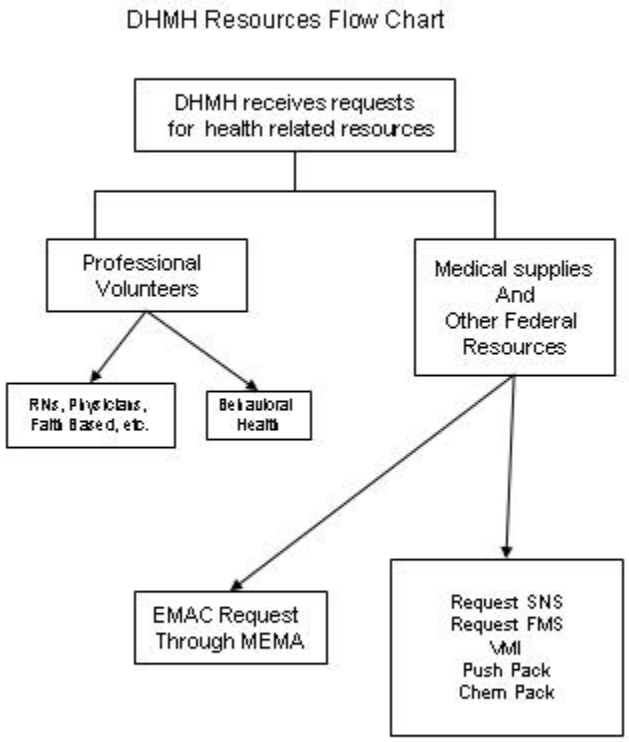


FIGURE 6: STATE OF MARYLAND PROCESS FOR REQUESTING RESOURCES IN AN EMERGENCY



PROTECTING THE WORKFORCE:

The ability to deliver quality health care is dependent on adequate staffing and the health and welfare of that staff. During a large-scale emergency, the healthcare workforce will have physical and psychological needs, and may become ill. Surveillance of the health status of the healthcare workforce is a critical element of public health and medical surge. DHMH, other State facilities, hospitals, other healthcare systems, local health departments, and other preparedness partners will need plans and systems to track and report health care personnel absenteeism and availability and have a policy in place to manage worker absenteeism and sick leave.

Healthcare systems and local and state government must have the ability to protect healthy workers from exposures. These entities must implement employee screening procedures for illness, use recommended infection control measures and personal protection equipment, evaluate and manage symptomatic and ill healthcare personnel, as well as distribute and administer medical countermeasures and vaccines to healthcare personnel as recommended by CDC and DHMH. In addition, they must provide psychosocial services to healthcare workers and their families to help sustain the workforce.

Workers will also need food, sleeping quarters and adequate rest and breaks to avoid fatigue. All entities involved in responding to the emergency must have plans in place to address the basic needs of the staff. Further, all entities responding to the emergency will need to plan for ways to keep staff updated on the situation and their roles as the emergency evolves.

METHODS FOR INCREASING THE HEALTHCARE PROVIDER AND EMERGENCY RESPONDER WORKFORCE

Although the developing both state and local medical reserve corps (MRC) has been and continues to be a major priority and method for enhancing surge capacity and capability, this resource should be used sparingly. Prior to activating the Maryland Professional Volunteer Corps (MPVC) or the local MRC, other resources should have been utilized. Moreover, as is described below, the MPVC specifically will not be activated until a catastrophic health emergency has been declared or under authorization from the Secretary of DHMH.

Temporary modification of law to broaden or alter scope of practice:

If the Governor has declared a State of Emergency, the Governor can use the authority to modify state law to suspend or broaden the scope of practice for any type of licensed health care provider, which include nurses, physician assistants, health care professional students, EMS personnel, etc. MD. CODE ANN., PUB. SAFETY §14-103 and 14-107.

Mandatory participation under a Catastrophic Health Emergency (CHE):

If the Governor declares a CHE, the Governor may order any licensed health care provider (including an EMS provider), who does not voluntarily participate, to participate in disease surveillance, treatment, and suppression efforts or otherwise comply with the directives of the Secretary of DHMH or other designated official. MD. CODE ANN., PUB. SAFETY §14-3A-03.

Revising the Clinical Model:

One suggested method for expanding surge is to restructure some of the day-to-day schedules and staffing patterns. Care provided in healthcare settings can be structured to make the most effective use of provider skills. For example, healthcare facilities can:

- Develop detailed plans and algorithms, which rely more on set patterns of care rather than the judgment of the health care provider.

- Have experienced staff supervise less experienced staff (i.e. designing care to be delivered in "teams" or "pods") which also provides the greatest support to providers working in extended or new roles.

- Develop a "cascade" system for deploying resources. As resources need to be extended, move staff whose competencies require the least supplementation to take on new / different roles.

- Differentiate between the competencies required to assess patients and the competence to discharge patients from the particular care site: referring to a "more competent" practitioner provides a safety net.

- Develop and pre-categorize providers as support providers, assessment providers, and decision-makers.

    - Support providers are those who possess some, but not all, of the technical skills needed to treat the patient. They are not sufficiently trained to assess the overall status of the patient.

    - Assessment providers may or may not possess all of the technical skills needed to treat the patient. However, they have the ability to assess the status of the patient and provide a care plan for some, but perhaps not all, patients. They can recognize when patients need additional care, but do not have the authority to discharge patients from the care setting.

    - Decision-maker providers are those with the training to assess all patients in the care-setting, make final decisions regarding care plans, and discharge patients.

i. Consider utilizing non-licensed personnel (and possibly patient's family members) to perform duties usually performed by licensed personnel.

Resources / Methods within a Facility:

Individual healthcare facilities are responsible for having plans and systems in place within their emergency response plans to increase staffing needs. Many facilities also have Continuity of Operations Plans (COOP) that addresses many of the issues having to do with maintenance of essential services and staff during emergencies. A facility could use any of the following methods to acquire additional staff during a Tier 1 or Tier 2 response to an emergency:

- Defer staff holidays and leaves of absences until the situation ends.

- For staff willing to work extra hours, establish 12-hour or other forms of extended shifts (if not already in existence).

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- Re-deploy clinical staff from deferred services.

- Cross-train clinical staff, including outpatient healthcare providers, who can provide support for essential patient-care areas (ED, ICU, medical units)

- Free up health professionals who are specially trained and competent to provide needed services to those patients in greatest need.

- Contact DHMH and the local health departments (LHD) to provide an assessment of the situation so that they are prepared to assist should the situation expand to a full Tier 2 or above.

For potential Tier 3 or above responses**,** the following actions are examples of steps that can be taken to expand public health and medical surge:

- Activate Mutual Aid Agreements between LHDs or request additional resources through the SEOC or DHMH EOC.

- Contact DHMH and the LHDs (per Figure 1) to assist with:
  - Determining the need for additional resources
  - Identifying and coordinating the delivery of additional resources
  - Assess the feasibility of recruiting staff from different hospitals and/or regions or utilizing the MPVC

- Implement changes in nurse / staff ratio.

- Train non-clinical staff to provide support services, such as meal preparation and delivery, patient personal care, patient movement for treatment, site cleaning, and support for health care workers (and their families) enabling them to complete their job functions.

- Assign patient care responsibilities to clinical administrators.

- Utilize retired practitioners, with or without “emeritus” status, from a hospitals medical staff.

- Activate MOUs or MAAs with Veteran's Administration and Department of Defense Hospitals in the jurisdiction.

- Recruit clinical staff in coordination with other hospitals in the immediate geographic area. Most Maryland counties have developed an inter-hospital MOU with the hospitals in the county.

- Activate the MPVC and broadcast public appeals to:

    - Recruit in-state, licensed practitioners who are not on any hospital's medical staff.
    - Recruit from retired health care professionals who still hold an active license or certificate to practice
    - Recruit from retired or currently unemployed but qualified healthcare providers within the community and State

- Health departments may activate mutual aid agreements with other county health departments.

- Make use of reserve military medical and nursing providers and other responders, as well as an expanded group of providers, such as veterinarians, dentists, pharmacists, and health professional students in the jurisdiction.

- Healthcare facilities and local public health departments may consider use of Community Emergency Response Teams (CERT), Medical Reserve Corps (MRC), and other volunteer organizations throughout the state to assist with both medical and public health staffing issues.

Activating the Volunteers:

When planners identify a gap between the care competencies required and those available from existing healthcare providers, they will have to look beyond their traditional workforce for assistance. Volunteers may have the ability to fill the gap. During an emergency, it may be difficult for hospitals and clinics to quickly evaluate the capabilities of volunteers to determine how best to use their skill sets. Whenever possible, it is best for emergency planners to have agreements in place or an established system for activating the use of volunteers prior to an event. Standards are needed to quickly evaluate, classify, and credential volunteers wanting to help in emergencies. If volunteers assist with the response, it is critically important to use them in exercises prior to an event.

Appendix B contains specific resources for volunteer organizations. Below are the steps involved in planning for use of volunteers:

- Identify Roles for Volunteers
- Develop Job Descriptions or Job Action Sheets
- Recruit Volunteers
- Screen Volunteers
- Orient Volunteers to their duties
- Train Volunteers

- Retain Volunteers

Credentialing and Privileges:

DHMH, LHDs, Hospitals, healthcare facilities, and the emergency management system (EMS) must have plans in place for rapid cross-credentialing and/or privileging procedures for clinicians and other response personnel. Health General Article **§ 18-903**

DHMH Maryland Professional Volunteer Corps Activation Protocol:

The Maryland Professional Volunteer Corps (MPVC) is comprised of licensed health care practitioners ready to assist communities recover from declared emergencies or disasters. In order to ensure the maximum utilization of the volunteers and to ensure they are deployed in an efficient manner, the following activation protocol is to be followed. In all instances where a particular role or position is indicated, it is understood that a designee may be fulfilling that role.

- The SEOC is activated.

- A State of Emergency is declared by the Governor or the Secretary of DHMH

- Request for supplemental professional volunteer support is submitted to MEMA at the SEOC. The request can be submitted by a Local Health Department (LHD), a DHMH State facility or a local jurisdiction Emergency Manager. The request will detail the number of volunteers needed, what profession(s) estimated duration of deployment, a contact person and any other relevant or supplemental information. (Form is attached) However, the request can be made via alternate modalities should hard copy transmission means become unavailable (email, WebEOC, e.g.).

- The request is forwarded to the DHMH Emergency Management (EM) Team On-Call Officer. The EM Team On-Call Officer consults with the Director of OP&R and the Secretary of Health regarding the request. A recommendation is made from this consultation to approve or disapprove the request and the recommendation is forwarded to the Governor and the Secretary of DHMH.

- The Governor and the DHMH Secretary decide whether to deploy the volunteers or not. This decision is conveyed to the EM Team Officer On-Call and the SEOC at MEMA.

- EM Team Officer On-Call notifies the requesting entity of the decision.

- The Director of OP&R notifies the OP&R Emergency Operations Manager.

- The Emergency Operations Manager contacts the MPVC Volunteer Coordinator.

- The MPVC Volunteer Coordinator contacts the following:
  - Appropriate licensing board(s) activators
  - Director of Behavioral Health Disaster Services, Mental Health Association

- The licensing board activators will send activation notices to their respective volunteers via the MIR3 notification system.

- Reply notices will come back to the board activator; continuous feedback regarding this effort will be conveyed to the volunteer coordinator who will likewise keep the EM and OP&R Manager apprised of efforts.

- If volunteer recruitment efforts either exceed or fall short of request(s), the available volunteers will be deployed in a judicious manner based on a discussion involving the EM operations manager, the OP&R manager, the OP&R director and the requesting entities.

- The requesting entity is responsible for establishing a Reception Center where volunteers can gather to check-in, receive updates and assignments and access support services during a deployment.

- The MPVC volunteer coordinator will regularly solicit feedback from the entity that received volunteers, adjusting resource allocation as needed.

- Contact Information:
  - DHMH EM Officer On-Call (pager 410-681-0935)
  - MEMA SEOC representative (410-517-3625)
  - OP&R Director/Deputy Director (pager 410-894-0772)
  - OP&R Emergency Operations Manager (pager 410-894-1018)
  - MPVC Volunteer Coordinator (pager 410-894-0952)
  - Director of Behavioral Health Disaster Services, Laura Copland (Pager 410-894-1069)
  - Licensing board representatives

Maryland Department of Health and Mental Hygiene
Office of Preparedness and Response
Maryland Professional Volunteer Corps Activation Request Form

Date of request: _____ Time of request: _____
Volunteers needed when (date, time): _____

Requestor:
Name: _____ Organization: _____
Phone: _____ Alt. Phone #: _____ Fax: _____

Briefly describe nature of the event:
_____
_____
Approx. how many people are impacted, if known?: _____

Volunteers requested---indicate number and on lines below, specific skill set (pediatrician, nurse practitioner, e.g.)
Physician_____ Nurse_____ Pharmacist_____ Dentist_____
Veterinarian_____ Psychologist_____ Professional Counselor_____
Social Worker_____ Psychiatrist_____ Psychiatric Nurse_____
_____
_____

Other issues/requests (bi-lingual vols. disabled victims, etc.): _____
_____
_____

Projected duties for each profession (brief but specific): _____
_____
_____
_____

Estimated need/length of deployment: _____

Special instructions or precautions** for volunteers:
_____
_____
_____
**tetanus shot, exposure to hazmats, bring own sleeping gear, shift work, extreme conditions, etc.

Volunteer staging area:
Location/address: _____
Supervisor: _____ Contact info: _____

Maryland Department of Health and Mental Hygiene

Office of Preparedness and Response
Maryland Professional Volunteer Corps Activation Request Form
-2-

Volunteer Accommodations (lodging, meals, phone/internet access, showers, parking, vaccinations available, etc.): _____
_____
_____
_____

Probable deployment site location (be as specific as possible) and site contact information:
_____
_____
_____

Other pertinent information (no electricity, roads closed, e.g.): _____
_____
_____
_____
_____
_____
_____

Submission preference:

1. Faxed to <u>both</u> the Office of Preparedness & Response at 410-333-5000 and the State EOC at 410-517-3680
2. Email request to: mbailey@dhmh.state.md.us
3. Phone requests: DHMH Call Center: 1-866-829-5240
   State Emergency Operations Center: 410-517-3655

Other Volunteer Organizations and Resources:

Medical Reserve Corp (MRC):

The MRC is a partner program of the Citizen Corps Councils and function as a way to locally organize and use volunteers who want to donate their time and expertise to prepare for and respond to emergencies and promote healthy living throughout the year. MRC volunteers work in coordination with existing local emergency response programs and also supplement existing community public health initiatives, such as outreach and prevention, immunization programs, blood drives, case management, care planning, and other efforts.

Maryland Volunteer Organizations Active in Disaster (MDVOAD):

MDVOAD is an umbrella organization of diverse disaster relief agencies that include faith-based groups, non-profits, governmental departments and agencies, and other non-governmental organizations. The purpose of MDVOAD is to bring together disaster relief and voluntary organizations to foster more effective response and recovery to the people of Maryland in times of disaster. The MDVOAD website contains up to date information and an annual resource directory of participating organizations. The website is www.mdvoad.org.

Community Emergency Response Team (CERT):

Community Emergency Response Teams (CERT) are a program developed under local Citizen Corps Councils. CERT teams are organized at the local level and are made up of volunteers that act under the direction of local emergency responders. CERT teams help provide critical support by giving immediate assistance to victims, providing damage assessment information, and organizing other volunteers at a disaster site. Volunteers trained in CERT also offer a potential workforce for performing duties such as shelter support, crowd control, and evacuation. The role of a CERT volunteer is to help others until trained emergency personnel arrive. CERT teams also help the community year-round by helping with community emergency plans, neighborhood exercises, preparedness outreach, fire safety education, and workplace safety.

Governor's Office on Community Initiatives and Service and Volunteerism (GOSV):

Through the combined efforts of traditional volunteerism and National Service programming, the GOSV provides solutions to Maryland's most pressing needs in the areas of education, public safety, the environment, and homeland security. In addition to coordinating the State's Citizen Corp Program, the GOSV serves as the lead agency at the SEOC for ESF #15 – Donations and Volunteer Management. GOSV can be contacted for information on volunteer programs throughout the state that may be used to assist with a health and medical emergency.

Maryland Emergency Management Assistance Compact (MEMAC):

MEMAC is a system of formalized agreements between local Emergency Management Agencies throughout Maryland. When activated, this system can bring resources and personnel to bear on an emergency very rapidly. Local jurisdictions can make a request for staff, equipment, and supplies through MEMAC during a locally declared emergency. Requests should be forwarded to the county EOC for review. The county EOC will forward the request to MEMA for approval.

American Red Cross:

There are five regional chapters in Maryland with the following capabilities: counseling, donations/distributions, feeding operations, shelter, financial assistance, medical assistance, and volunteer assistance.

Department of Human Resources (DHR):

The DHR runs a state employee volunteer program with approximately 4,000 volunteers who can assist in a variety of ways during an emergency. DHR volunteers are usually used to staff mass shelters but also could possibly supply non-clinical and other administrative support at hospitals and health care facilities, alternate care sites, or mass prophylaxis sites.

Maryland Military:

The Maryland Military Department includes the Maryland Army National Guard, Maryland Air National Guard, and the Maryland Defense Force. When activated by the Governor, the National Guard may provide support to any ESF team. Maryland National Guard personnel, equipment, and expertise deployment are coordinated through MEMA to civilian authorities after a Governor declared emergency and upon direction and orders from the Governor. A local emergency manager may make a request for military assistance to MEMA, upon which MEMA will advise the Governor of the need to activate the National Guard for emergency service. The decision to activate is solely within the Governor's discretion.

Out-of-State Practitioners and Emergency Responders under the Emergency Management Assistance Compact (EMAC):

EMAC could provide assistance with the staffing needs of hospitals and other health care facilities, public health departments, EMS providers, other first responders, alternate care sites, mass prophylaxis sites, and other shelters during an emergency.

National Disaster Medical System:

The National Disaster Medical System (NDMS) is part of DHHS and is responsible for supporting Federal agencies in the management and coordination of the Federal medical response to major

emergencies and federally declared disasters including natural disasters, technological disasters, major transportation accidents, and acts of terrorism including weapons of mass destruction events. The NDMS is requested by the Governor through the MEMA during a declared emergency.

The NDMS also provides support to military and Veterans Administration health and medical systems. Three objectives are central to NDMS operations: (1) to provide health, medical, and related social service response to a disaster area in the form of medical response units or teams and medical supplies and equipment; (2) to evacuate patients who cannot be treated in the affected area to designated locations elsewhere in the nation; and (3) to provide hospitalization in Federal hospitals and a voluntary network of non-Federal acute care hospitals that have agreed to accept patients in the event of a national emergency. NDMS resources can be activated in an overseas military conflict to provide support to U.S. troops, after a presidential declaration of disaster, and in response to a request for major medical assistance. The NDMS response includes medical response, patient evacuation, and medical care. NDMS deploys Disaster Medical Assistance Teams (DMATs) at the request of local and State officials. DMATs can be activated under three conditions:

(1) preplanned events;
(2) through state activation;
(3) through federal activation.

1. Disaster Medical Assistance Teams (DMATs):

Rapid-response teams of physicians, nurses, and other medical professionals who provide medical care during and after a disaster. DMATs deployed to disaster sites with sufficient supplies and equipment to sustain themselves for a period of 72 hours while providing medical care at a fixed or temporary medical care site. In mass casualty incidents, their responsibilities may include triaging patients, providing high-quality medical care despite the adverse and austere environment often found at a disaster site, and preparing patients for evacuation. In other types of situations, DMATs may provide primary medical care and/or may serve to augment overloaded local health care staffs. Under the rare circumstance that disaster victims are evacuated to a different locale to receive definitive medical care, DMATs may be activated to support patient reception and disposition of patients to hospitals. DMATs are designed to be a rapid-response element to supplement local medical care until other Federal or contract resources can be mobilized, or the situation is resolved.

2. Veterinary Medical Assistance Teams (VMAT):

During an emergency response, VMATs work under the guidance of local authorities by providing technical assistance and veterinary services. The VMATs are directed by the NDMS. Teams are composed of clinical veterinarians, veterinary pathologists, animal health technicians (veterinary technicians), microbiologist/virologists, epidemiologists, toxicologists and various scientific and support personnel.

The VMAT assesses the medical requirements of the animals, sets up field hospitals, and initiates triage treatment programs. Additional responsibilities include animal disease surveillance and control; public health disease prevention; and re-establishing safe food and water for animals and humans. They also mitigate hazards, and provide surveillance against biological and chemical terrorism. Their activities involve federal, state, and local officials, plus volunteers.

3. National Nurse Response Team (NNRT):

A specialty DMAT that will be used in any scenario requiring hundreds of nurses to assist in chemoprophylaxis, a mass vaccination program, or a scenario that overwhelms the nation's supply of nurses in responding to a weapon of mass destruction event.

The NNRTs are directed by the NDMS in conjunction with a Regional Team Leader in each of the ten standard Federal Regions. The NNRTs are composed of approximately 200 civilian nurses.

4. National Pharmacy Response Teams (NPRT):

The NPRTs consist of pharmacists, pharmacy technicians, and pharmacy students who can assist in mass dispensing of medications during a disaster.

5. Disaster Mortuary Response Teams (DMORT):

DMORTs fulfill victim identification and mortuary responsibilities under ESF #8 in the National Response Framework (NRF). These responsibilities include: temporary morgue facilities, victim identification, forensic dental pathology, forensic anthropology methods, processing, preparation, and disposition of remains. DMORTs are comprised of medical examiners, coroners, pathologists, forensic dentists, radiologists, mental health counselors, funeral directors, and support personnel.

United States Public Health Service Commissioned Corps (USPHS):

The United State Public Health Service (USPHS) Commissioned Corps is part of the Department of Health and Human Services (HHS) and is lead by the Surgeon General. It consists of approximately 6,000 officers in the following professional categories: physicians, nurses, dentists, pharmacists, dieticians, environmental health, engineers, scientists, therapists, health services, and veterinarians. The Corps can be mobilized in times of disaster or other public health emergencies in response to domestic or international requests.

SECURITY STAFFING

In the event of a disaster or other catastrophe, an increase in the amount of security will be needed. This increased security will be needed at DHMH, other State agencies, LHDs, healthcare facilities, and other preparedness partner organizations responding to the incident. In the event that the incident requires the opening of the Points of Dispensing (PODs) for mass vaccinations or distribution of medications, then the security procedures as outline in the State's Strategic National Stockpile (SNS) Plan would be enforced.

Law enforcement organizations should be brought in early during the planning cycle for Medical System Surge to ensure that they have the personnel, resources, and legal authority to provide needed security services when needed. MOUs and formal notification/request procedures should be developed and regularly tested to ensure they work when needed.

If established systems for increasing security staffing should not be sufficient, additional requests can be made to MEMA through the local emergency management agency.

OBJECTIVE:

To rapidly increase the capacity to provide needed security and protection in order to ensure that government and the health care system can respond to a health and medical emergency.

ASSUMPTIONS:

1. Once media reports of a disease outbreak or attack are disseminated, victims and the worried well (those people concerned that they may have been affected by the emergency) may converge upon hospitals and other medical facilities to seek treatment.

2. Hospitals and emergency room departments will need security given the increased demand for services and possibility of long wait times for care. In addition, triage or treatment decisions may cause some people to not receive the care they think they require and cause them to become confrontational.

3. Medical providers may need security to escort them to hospitals, alternate care sites, or Points of Dispensing (POD).

4. Law enforcement or security personnel will need to protect the delivery of the SNS and other medical supply and resource shipments during an emergency.

5. Law enforcement / security personnel are needed for delivering and enforcing quarantine and isolation orders (if needed).

6. Law enforcement / security personnel are needed to manage and restrict traffic patterns for emergency responders to ensure the ability to transport patients from one location to another.

7. Law enforcement / security personnel are needed to establish security perimeters at hospitals, temporary health care sites, temporary morgues, quarantine and isolation sites, and incident sites.

8. Law enforcement is needed to maintain law and order generally throughout a community.

Behavioral Health:

Mental and behavioral health will be an integral part of a surge event. Emotional and physical preparedness are some of the most effective ways of addressing the anxiety and stress that may accompany a short term or prolonged public health or medical surge event. Partners should develop strategies to cope with stress, predict the impact on your local community and individuals, grief and loss, ethical issues, family preparedness, among others.

PART II:

CHAPTER 5:

PUBLIC HEALTH AND MEDICAL SURVEILLANCE

PART II: RESPONSE

CHAPTER 5: PUBLIC HEALTH AND MEDICAL SURVEILLANCE

SURVEILLANCE: DETECTION, MONITORING AND REPORTING OF EVENTS

Surveillance is a key tool for public health and medical surge. Surveillance can lead to the early identification of a potential public health emergency and therefore result in being prepared to address the potential disaster or catastrophe. Once an incident occurs, surveillance systems can provide on-going monitoring and evaluation to assist in determining when and where additional resources might be needed to mitigate the emergency. Surveillance data will also be critical to assist in determining when the disaster is over and when the recovery phase should be activated. Surveillance and several specific forms of surveillance are defined in the following section.

DEFINITIONS:

- **Surveillance:**

Public health surveillance is the ongoing, systematic collection, analysis, interpretation, and dissemination of data about a health-related event for use in public health action to reduce morbidity and mortality and to improve health. An example of one important surveillance activities is outbreak detection, or identifying an increase in frequency of disease above the background occurrence of the disease.

- **Biosurveillance:**

Homeland Security Presidential Directive -21 (HSPD-21) defined biosurveillance as "the process of active data-gathering with appropriate analysis and interpretation of biosphere data that might relate to disease activity and threats to human or animal health—whether infectious, toxic, metabolic, or otherwise, and regardless or intentional or natural origin—in order to achieve early warning of health threats, early detection of health events, and overall situational awareness of disease activity." (HSPD-21, paragraph 2 a)

Biosurveillance is the process of gathering and managing health-related data and information for early warning of threats and hazards, early detection of events, and rapid characterization so that effective actions can be taken to mitigate adverse health effects. The scope of biosurveillance is for all-hazards of public health significance, including non-communicable diseases and exposures. The scope includes the systematic and ongoing monitoring of population health and the investigation of indications and warnings to verify an incident of health concern and characterize it for effective response.

- **Enhanced Surveillance:**

Enhanced surveillance refers to surveillance activities beyond traditional surveillance conducted for the purpose of early detection of public health emergencies. Syndromic surveillance, one example of enhanced surveillance activities, offers the potential for earlier detection of bioterrorism, outbreaks, and other public health emergencies. Syndromic surveillance makes use of automated electronic reporting for rapid analysis and detection. Data from non-traditional health indicators from multiple data sources are grouped into syndromes to detect aberrations in the expected level of disease. Monitoring syndromes may provide for earlier detection of outbreaks before diagnoses can be confirmed and reported.

OBJECTIVES:

- To protect the public's health by preventing, mitigating, and/or tracking public health emergencies through timely detection, monitoring, and reporting of infectious diseases, biological agents, and other potential deadly agents.

- To identify disease outbreaks and exposures early in an event so that public health authorities can use the appropriate medical and public measures to prevent overwhelming demand on the healthcare delivery system, emergency departments and other healthcare providers.

ASSUMPTIONS:

1. The public health system is responsible for protecting the health of the public and preventing, managing, and controlling the spread of communicable diseases.

2. Early detection and response to disease outbreaks and exposures to deadly or harmful agents are key public health priorities.

3. An important component of the public health and healthcare system is surveillance.

4. Virologic, disease, and biological agent surveillance data, outbreak investigation data and other studies are critical information sources. This knowledge can be key in activating other aspects of surge capacity and response plans and can assist decision makers in developing effective control strategies to mitigate and even prevent harm to the public.

5. Preventing and mitigating the impact of diseases and agents on the human population can serve to eliminate or decrease a situation creating medical surge.

SURVEILLANCE AND ALERTING SYSTEMS:

- **Epi-X:**

Epi-X is the CDC's Epidemiology Information Exchange program that is conducted through a secure web based, e-mail, and alerting system. This system will alert health department staff in each state by pager, phone, and e-mail to check the secure Epi-X website for detailed information on outbreaks and public health information. Public health professionals may use information from Epi-X on disease outbreaks and public health incidents in neighboring jurisdictions as an early warning for a potential public health threat in their own jurisdiction. During incidents or emergencies requiring public health and medical surge, Epi-X may be a valuable tool for situational awareness of surveillance data and information from across the country.

- **ESSENCE:**

The Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) is a web-based system that incorporates data from multiple data sources grouped into syndromes to detect aberrations in the expected level of disease. In Maryland, the ESSENCE system includes emergency department data from acute care hospitals, exposure calls from poison control centers, and over the counter medication sales from pharmacies. DHMH monitors ESSENCE data on a 7-day a week, 24-hour a day basis. In addition to Maryland ESSENCE, DHMH also participates in an Aggregated National Capital Region (ANCR) ESSENCE node, which incorporates surveillance information from within the NCR. This node provides partners with an important regional perspective of surveillance data and information.

During an incident requiring public health and medical surge, ESSENCE will provide DHMH with situational awareness of the health of the public. ESSENCE may indicate increases in emergency department visits for specific illnesses, increases in purchases of over-the-counter medications at pharmacies, or increases in exposure calls to the poison centers. DHMH may use this information to assist in determining where additional resources may be needed. ESSENCE information may be used to help in assessing the health impact of the incident in terms of magnitude and duration. During an incident, ESSENCE will augment other routine surveillance systems at DHMH and strengthen the information available to make decisions regarding appropriate response activities.

- **Poison Centers:**

Maryland is served by two poison centers: The Maryland Poison Center (MPC) and the National Capital Poison Center (NCPC) both voluntarily perform surveillance and provide relevant information to DHMH and local public health departments. The Maryland Poison Center (MPC) serves all Maryland counties, except Montgomery County and Prince George's County. The National Capital Poison Center (NCPC) serves National Capital Region jurisdictions including the District of Columbia, Montgomery County and Prince George's County in Maryland, and several jurisdictions in northern Virginia. MPC and NCPC submit data to a central national database with aggregated data from poison centers across the United States. MPC and NCPC will notify DHMH and local health departments of any cases or symptoms that may require response from public health officials. During

an incident that requires public health and medical surge, there may be increases in calls to the poison centers. This information may be valuable for assessing the impact of the incident in terms of the populations affected and the magnitude of the health impact.

Communicable Disease Surveillance and Reporting:

DHMH utilizes ongoing surveillance and public health investigation to mitigate the impact of communicable diseases on the public's health in Maryland. DHMH Epidemiology and Disease Control Program (EDCP) receives detailed information on suspected and confirmed cases of reportable diseases from local health departments via the National Electronic Disease Surveillance System (NEDSS). DHMH uses NEDSS to monitor and analyze trends in communicable diseases across the state. NEDSS will be a useful tool for collecting information during an incident requiring public health and medical surge. This system is flexible enough to be expanded to track additional diseases or information during an incident if necessary. For example, during pandemic influenza, NEDSS may be used to track cases of novel influenza.

MANDATORY REPORTING REQUIREMENTS AND PROCEDURES

Maryland has extensive reporting requirements to ensure that the appropriate public health and medical officials learn of potential outbreaks and other possible threats to the population. Mandatory reporting provides public health practitioners with the information needed for prompt investigations and response. These mandatory reporting requirements are supported through the Maryland legal authority afforded the Department of Health and Mental Hygiene (DHMH) under COMAR.

Maryland requirements for diseases, conditions, outbreaks and unusual manifestations reportable by Health Care Providers is provided in detail at: http://www.edcp.org/pdf/ReportableDisease_HCP.pdf.

Maryland requirements for diseases, conditions, outbreaks and unusual manifestations reportable by Laboratories is provided in detail at: http://www.edcp.org/pdf/ReportableDisease_Lab.pdf.

SURVEILLANCE DURING PUBLIC HEALTH AND MEDICAL SURGE

The existing surveillance systems that are already in place can provide ongoing monitoring and evaluation during an incident or emergency requiring public health and medical surge. Surveillance data will be used to assist in determining when and where additional resources might be needed to mitigate the emergency. In addition, surveillance data will also be critical in the assessment to determine when the needs for surge capabilities are decreasing and the recovery phase should begin. Therefore, DHMH and local health departments will be responsible for communicating the importance of the heightened need for timely and complete surveillance data to all partners.

For Tiers 1 and 2, which affect only a single jurisdiction, DHMH may provide the local health department with support and assistance for surveillance activities, such as case investigations. In Tier

3 and 4 responses, in which several jurisdictions are affected, DHMH may assist the local health departments by providing coordination of surveillance activities. DHMH will provide guidance to local health departments and healthcare facilities related to changes or enhancements to disease reporting and surveillance activities during the response.

For incidents that require Tier 5 or 6 responses, DHMH will coordinate surveillance efforts and activities with other states and national partners, including the Centers for Disease Control and Prevention (CDC).

MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE

CONFIDENTIAL MORBIDITY REPORTS

Maryland statute, specifically Maryland Code Annotated, Health-General ("Health-General") §§18-201 and 18-202, and Maryland regulation, specifically Code of Maryland Regulations ("COMAR") 10.06.01 Communicable Diseases, require that health care providers, hospitals, and certain others specified below submit a report in writing of diagnosed or suspected cases of specified diseases to the Commissioner of Health in Baltimore City or the health officer in the county where the provider cares for that person.

Maryland statute Health-General §§18-201.1 and 18-202.1, and Maryland regulations COMAR 10.18.03, HIV and AIDS Investigations and Case Reporting, require that physicians, hospitals, and certain others specified below submit a report in writing of diagnosed cases of HIV and AIDS to the Commissioner of Health in Baltimore City or the health officer in the county where the provider cares for that person.

REPORTING INSTRUCTIONS

What to Report - Reportable diseases & conditions are listed below. (Effective date: November 5, 2007)
☎ Report immediately by telephone. (☏ Voluntary reporting would be greatly appreciated.)

- Acquired immunodeficiency syndrome (AIDS) (see **Who Should Report** - page 2)
- Amebiasis
- Anaplasmosis
- ☎ Animal bites
- ☎ Anthrax
- Arboviral including, but not limited to:
  - Eastern equine encephalitis
  - LaCross virus
  - St.Louis encephalitis
  - Yellow fever
  - Western equine encephalitis
  - West Nile virus infection
- Babesiosis
- ☎ Botulism
- ☎ Brucellosis
- *Campylobacter* infection
- Chancroid
- *Chlamydia* infection
- ☎ Cholera
- Coccidioidomycosis
- Creutzfeldt-Jakob disease
- Cryptosporidiosis
- Cyclosporiasis
- ☎ Dengue fever
- ☎ Diphtheria
- Ehrlichiosis
- Encephalitis
- ☎ Epsilon toxin of *Clostridium perfringens*
- *Escherichia coli* O157:H7 infection
- Giardiasis
- ☎ Glanders
- Gonococcal infection
- ☎ *Haemophilus influenzae*, invasive disease
- ☎ Hantavirus infection
- Harmful algal bloom related Illness
- Hemolytic uremic syndrome, post-diarrheal
- Hepatitis, viral (A ☏, B, C, all other types and undetermined)
- Human immunodeficiency virus (HIV) (see **Who Should Report** – page 2)
- Influenza-assoc'd pediatric mortality
- ☎ Influenza: novel influenza A virus infection
- Isosporiasis
- Kawasaki syndrome
- ☎ Legionellosis
- Leprosy
- Leptospirosis
- Listeriosis
- Lyme disease
- Malaria
- ☎ Measles (rubeola)
- Meningitis, infectious
- ☎ Meningococcal, invasive disease
- Microsporidiosis
- Mumps (infectious parotitis)
- Mycobacteriosis, other than tuberculosis and leprosy
- ☎ Pertussis
- Pertussis vaccine adverse reactions
- Pesticide related illness
- ☎ Plague
- Pneumonia in a health care worker resulting in hospitalization
- ☎ Poliomyelitis
- Psittacosis
- ☎ Q fever
- ☎ Rabies
- ☎ Ricin toxin
- Rocky Mountain spotted fever
- ☎ Rubella (German measles) and congenital rubella syndrome
- Salmonellosis (nontyphoidal)
- Septicemia in newborns
- ☎ Severe acute respiratory syndrome (SARS)
- Shiga-like toxin producing enteric bacterial infections
- Shigellosis
- ☎ Smallpox and other orthopoxvirus infections
- ☎ Staphylococcal enterotoxin B
- Streptococcal invasive disease, Group A and Group B
- *Streptococcus pneumoniae*, invasive disease
- Syphilis
- Tetanus
- Trichinosis
- ☎ Tuberculosis and
- ☎ suspected tuberculosis
- ☎ Tularemia
- ☎ Typhoid fever (case, carrier, or both, of *Salmonella typhi*)
- Varicella (chickenpox), fatal cases only
- Vibriosis, non-cholera types
- ☎ Viral hemorrhagic fevers (all types)
- ☎ Yellow fever
- Yersiniosis

OTHER REPORTABLE DISEASES AND CONDITIONS

- Any condition made reportable by department orders or new regulations (e.g., SARS). ☎
- A single case of a disease of known or unknown etiology that may be a danger to the public health.
- Unusual manifestation(s) of a communicable disease in an individual. ☎
- Outbreaks (defined on page 2) of known or unknown etiology that may be a danger to the public health. ☎

OUTBREAK REPORTING

Outbreak means:

- A **foodborne** disease outbreak, defined as two or more epidemiologically related cases of illness following consumption of a common food item or items, or **one case** of the following:
  - Botulism
  - Cholera
  - Mushroom poisoning
  - Trichinosis
  - Fish poisoning such as Ciguatera poisoning
    Scombroid poisoning
    Paralytic shellfish poisoning
    Any other neurotoxic shellfish poisoning
- Three or more cases of a disease or illness that is not a foodborne outbreak and that occurs in individuals who are not living in the same household, but who are epidemiologically linked;
- An increase in the number of infections in a facility, such as a hospital, long-term care facility, assisted living facility, school, or child care center, over the baseline rate usually found in that facility;
- A situation designated by the Secretary as an outbreak; or
- **One case** of:
  - Anthrax
  - Plague
  - Rabies (human)
  - Smallpox
  - Any of the single cases defined as a foodborne disease outbreak above

An outbreak of a disease of known or unknown etiology that may be a danger to the public health should be reported to your local health department immediately. ☎

Who Should Report - The following persons and establishments shall report:

1. Health care providers (physician, physician's assistant, dentist, chiropractor, nurse practitioner, nurse, medical examiner, administrator of a hospital, clinic, nursing home, or any other licensed health care provider).
   Only physicians shall report newborn infants exposed to HIV infection.
   Only physicians and clinical or infection control practitioners in certain institutions (hospitals, nursing homes, hospice facilities, medical clinics in correctional facilities, inpatient psychiatric facilities, and inpatient drug rehabilitation facilities) shall report diagnosed cases of HIV and AIDS.
2. Public, private, or parochial school and child care facility personnel (teacher, principal, school nurse, superintendent, assistant superintendent or designee).
3. Masters of vessels or aircraft within the territory of Maryland.
4. Food establishments.
5. Any individual having knowledge of an animal bite.

A NOTE ABOUT LABORATORIES: Reporting rules and procedures for laboratories are different than for health care providers. Directors of a medical laboratory shall report evidence of diseases under a separate statute (Health-General §18-205), using the list of diseases and formats specified there. Laboratories should not report using the DHMH 1140 form. Laboratory directors may consult Maryland law or regulation, or visit our Internet site for additional reporting information specific to laboratories.

When to Report - Reporting shall be done **within 48 hours of diagnosis or suspected diagnosis, or immediately** by telephone for outbreaks and diseases or conditions noted with a telephone icon (☎) on the list above. (Reports may be faxed for all conditions EXCEPT HIV and CD4 which MUST NOT BE FAXED.)

Where to Report - Report to the local health department in the jurisdiction where the provider cares for that person.

Local Health Department - Telephone: _____

(See attached list of telephone and fax numbers, page 5, or our Internet site at http://www.edcp.org.)

How to Report – Complete the DHMH 1140 form. Mailed reports should be placed in a sealed envelope marked "confidential." Reports may be faxed for all conditions EXCEPT HIV and CD4 which MUST NOT BE FAXED. Reports may also be given over the telephone.

Additional information - Should the health department need to contact the patient, the advice and assistance of the reporting health care provider will ordinarily be sought first. Health departments offer medical and epidemiological consultation and laboratory assistance to physicians and other health care providers.

HIPAA: The HIPAA Privacy Rule permits physicians and other covered entities to disclose protected health information, without a patient's written authorization, to public health authorities who are legally authorized to receive such reports for the purpose of preventing or controlling disease. This includes conducting public health surveillance, investigations, or interventions. (For more about the privacy rule and public health see: http://www.dhmh.state.md.us/hipaa/pdf/dhmh1.pdf and http://www.cdc.gov/mmwr/preview/mmwrhtml/su5201a1.htm.)

HIV AND AIDS: REPORTABLE CONDITIONS ACCORDING TO THE 1999 SURVEILLANCE DEFINITION (ALL AGES)

All persons who are HIV infected should be reported. Persons who are HIV infected **and** exhibit any of the following AIDS-defining clinical conditions should be reported as presumptive AIDS cases. Reporting is by physicians and clinical and infection control practitioners at certain institutions (see **Who Should Report**, page 2).

Candidiasis of bronchi, trachea, or lungs
Candidiasis, esophageal
* Cervical cancer, invasive
Coccidioidomycosis, disseminated or extra pulmonary
Cryptococcosis, extra pulmonary
Cryptosporidiosis, chronic intestinal (>1 month's duration)
Cytomegalovirus disease (other than liver, spleen, or nodes)
Cytomegalovirus retinitis (with loss of vision)
Encephalopathy, HIV-related
Herpes simplex: chronic ulcer(s) (>1 month's duration); or bronchitis, pneumonitis, or esophagitis
Histoplasmosis, disseminated or extra pulmonary
Isosporiasis, chronic intestinal (>1 month's duration)
Kaposi's sarcoma
Lymphoma, Burkitt's (or equivalent term)
Lymphoma, immunoblastic (or equivalent term)
Lymphoma, primary, of brain
Mycobacterium avium complex or M. kansasii, disseminated or extrapulmonary
Mycobacterium tuberculosis, extrapulmonary or disseminated
* Mycobacterium tuberculosis, pulmonary
Mycobacterium, other species or unidentified species, disseminated or extrapulmonary
Pneumocystis carinii pneumonia
* Pneumonia, recurrent in a 12 month period
Progressive multifocal leukoencephalopathy
Salmonella septicemia, recurrent
Toxoplasmosis of brain
Wasting syndrome due to HIV

* * Lymphoid interstitial pneumonitis and/or pulmonary lymphoid hyperplasia
* * Bacterial infections, multiple or recurrent

* HIV infection and CD4+ T-lymphocyte count of < 200 cells/μL in a person without one of the above listed AIDS-indicator conditions

* These conditions are only included in the adult/adolescent AIDS case definition and not in the pediatric AIDS definition.
* * These conditions are only included in the pediatric AIDS case definition and not in the adult AIDS definition.

REPORTING OF SEXUALLY TRANSMITTED DISEASES (STDs) - NOT INCLUDING HIV

For reports of STDs, please complete both the general section of the DHMH 1140 morbidity report and the STD specific section below it. Maryland law and regulation require reporting of syphilis, gonorrhea, and chlamydia by both laboratories and health care providers. The dual reporting system is intentional - the clinical and demographic information you provide (which is normally unavailable from laboratories) enables the health department to better monitor disease trends.

PREVENTING CONGENITAL SYPHILIS

In accordance with Health-General §18-307 and COMAR 10.06.01.17(D), all pregnant women shall be screened serologically for syphilis a minimum of two times during their prenatal visits:

1) at the first prenatal visit, **and**
2) in the third trimester at 28 weeks of gestation or as soon as possible thereafter.

CDC also recommends the following:

- No infant should leave the hospital without the maternal serologic status having been determined at least once during pregnancy,
- Any woman who delivers a stillborn infant after 20 weeks gestation should be tested for syphilis, and
- Serologic testing should be performed at delivery in areas where the prevalence of syphilis is high or for patients at high risk.

STD SERVICES AND TREATMENT SCHEDULES

The Maryland Department of Health and Mental Hygiene (DHMH) and each county's local health department have professional personnel to provide a full range of services to individuals testing positive for sexually transmitted infections, including HIV. Services include counseling, education, partner notification, and routine screening and medical evaluation of partners, while always adhering to the strictest measures of confidentiality. If you have a patient who recently tested positive for syphilis, gonorrhea, or chlamydia, the state or local program may contact your office for additional information, such as confirmatory test results or treatment type and date, as part of assuring comprehensive prevention and case management for your clients and their respective partners. If you want to refer your patient to the local health department for HIV test results notification or partner services, use the appropriate check box on the morbidity report form.

Current recommended treatment schedules for syphilis, HIV, and other sexually transmitted diseases are available from your local health department. For more information see the U. S. Centers for Disease Control and Prevention's "*Sexually Transmitted Diseases Treatment Guidelines, 2006*," MMWR Recommendations and Reports Aug 4, 2006, Vol. 55, No. RR-11, available at http://www.cdc.gov/std/treatment/.

REPORTING OF TUBERCULOSIS - CONFIRMED OR SUSPECT

All cases as described below are to be reported*:

1. All persons for whom at least two anti-tuberculosis drugs are prescribed.
2. All newly diagnosed tuberculosis disease regardless of the number of drugs prescribed. This includes all cases found at the time of death or after death, and all cases previously classified as "primary" tuberculosis.
3. All persons with tuberculosis disease who have been previously treated for tuberculosis should be reported if more than a year has elapsed since treatment was discontinued.
4. All suspected tuberculosis disease awaiting bacteriological confirmation. Amendments to a "suspect" report should be submitted when bacteriological results become available.

When reporting tuberculosis, please complete both the general section of the DHMH 1140 morbidity report and the TB specific section below it.

* Voluntary reporting of positive tuberculin skin tests in children less than one year of age enables local health department investigators to identify a source case.

TREATMENT OF TUBERCULOSIS

The recommended treatment regimen for uncomplicated tuberculosis is a two month induction phase of four drugs consisting of **isoniazid (INH)**, **rifampin (RIF)**, **pyrazinamide (PZA)**, and either **ethambutol (EMB)** or **streptomycin (SM)**, followed by a four month continuation phase with INH and RIF. For more complicated cases, i.e., co-existing HIV infection or drug resistance, treatment regimens vary. Consultation on such cases is available from the Division of Tuberculosis Control at (410) 767-6698. The Centers for Disease Control and Prevention recommend that a health care provider observe each dose as it is taken (i.e., **directly observed therapy** – DOT). DOT is the standard of care for all active TB cases in Maryland and can be arranged by calling the local health department in the jurisdiction where the case resides. Other tuberculosis-related services available from all local health departments include medical consultation, laboratory studies, chest radiographs, and medications.

If the initial specimens submitted for mycobacterial culture are sent to a private laboratory, please request that drug susceptibility testing is also done.

ABBREVIATIONS USED

AIDS ..... acquired immunodeficiency syndrome
EMB ..... ethambutol
FTA-ABS ..... fluorescent treponemal antibody-absorption
FTA-IgM ..... fluorescent treponemal antibody-immunoglobulin M
HAV IgM ..... hepatitis A virus immunoglobulin M antibody
HBsAg ..... hepatitis B virus surface antigen
HBcAB ..... hepatitis B virus core antibody (total or IgM + IgG)
HBcIgM ..... hepatitis B virus core immunoglobulin M antibody
HBsAB ..... hepatitis B virus surface antibody
HCV AB ..... hepatitis C virus antibody
HIV ..... human immunodeficiency virus
INH ..... isoniazid
KS ..... Kaposi's sarcoma
PCP ..... Pneumocystis carinii pneumonia
PID ..... pelvic inflammatory disease
PPD ..... purified protein derivative
PPNG ..... penicillinase-producing Neisseria gonorrhoeae
PZA ..... pyrazinamide
RIF ..... rifampin
RPR ..... rapid plasma reagin
SM ..... streptomycin
STD ..... sexually transmitted disease(s)
TB ..... tuberculosis
VDRL ..... venereal disease research laboratory

GETTING UP-TO-DATE INFORMATION

Reporting requirements and other important information change with time. Please call your local health department or the Maryland Department of Health and Mental Hygiene - Division of Communicable Disease Surveillance (410-767-6712), or visit one of the following Internet sites to obtain the most current information.

Maryland Department of Health and Mental Hygiene (DHMH)	www.dhmh.state.md.us
Office of Epidemiology and Disease Control Programs - general communicable disease information; reporting requirements, etc. - local health department telephone numbers and addresses	www.edcp.org
Maryland HIPAA Information	www.dhmh.state.md.us/hipaa/
Maryland Division of State Documents - Code of Maryland Regulations: 10.06.01.03, 10.18.02, 10.18.03, and others ("COMAR Online" Link)	www.dsd.state.md.us
Maryland General Assembly Home Page - state laws covering lab reporting: §18-205 and others ("Maryland Statutes" Link)	www.mlis.state.md.us

Diseases, Conditions, Outbreaks, & Unusual Manifestations Reportable by Maryland Laboratories

The regulations governing laboratory reporting were updated effective October 1, 2008. Table 1, below, copied from the Code of Maryland Regulations (COMAR) 10.06.01.03 C, details the diseases, conditions, outbreaks, and unusual manifestations that are reportable in Maryland. The table has been altered from the exact COMAR version by the addition of information about the reporting of AIDS and HIV. In addition, Table 1 indicates when "clinical materials" should be submitted to the Maryland Department of Health and Mental Hygiene's (DHMH) laboratory, as well as the timeframe for reporting. Several footnotes to the table elaborate on specific details, as do the following sections of this document: Legal Authority, What to Report, How to Report, When to Report, Where to Report, and Submitting Clinical Materials. The regulations apply to laboratories located within Maryland and any that process human specimens obtained from an individual in Maryland. The COMAR changes will be published in The Maryland Register (www.dsd.state.md.us/mdregister/) on October 24, 2008 and will appear in COMAR online (www.dsd.state.md.us/comar/) late on October 31, 2008.

Table 1	Reportable Diseases and Conditions			
HEALTH CARE PROVIDERS, INSTITUTIONS, & OTHERS[1]	LABORATORIES		TIMEFRAME FOR REPORTING[2]	
Diseases and Conditions	Laboratory Evidence of	Submit Clinical Materials to the Department[3]	Immediate	Within One Working Day
An outbreak of a disease of known or unknown etiology that may be a danger to the public health[4]	Similar etiological agents from a grouping or clustering of patients		X	
A single case of a disease or condition not otherwise included in §C of this regulation, of known or unknown etiology, that may be a danger to the public health	An etiologic agent suspected to cause that disease or condition			X
An unusual manifestation of a communicable disease in an individual	An etiologic agent suspected to cause that disease			X
Acquired immunodeficiency syndrome (AIDS)[5]	Immunosuppression (all CD4+ lymphocyte tests in persons with HIV infection)	X (on request)		X
Amebiasis	*Entamoeba histolytica*			X
Anaplasmosis	*Anaplasma phagocytophilum*			X
Animal bites	Not Applicable		X	
Anthrax	*Bacillus anthracis*	X	X	
Arboviral infections including, but not limited to: Dengue fever Eastern equine encephalitis LaCrosse virus infection St. Louis encephalitis Western equine encephalitis West Nile virus infection Yellow fever	Any associated arbovirus including but not limited to Dengue virus, Eastern equine encephalitis virus, LaCrosse virus, St. Louis encephalitis virus, Western equine encephalitis virus, West Nile virus, Yellow fever virus	X	X	

Instructions for Maryland Communicable Disease Laboratory Reporting (DHMH 1281) REVISED: October 24, 2008

Table 1	Reportable Diseases and Conditions			
HEALTH CARE PROVIDERS, INSTITUTIONS, & OTHERS[1]	LABORATORIES		TIMEFRAME FOR REPORTING[2]	
Diseases and Conditions	Laboratory Evidence of	Submit Clinical Materials to the Department[3]	Immediate	Within One Working Day
Babesiosis	Babesia species			X
Botulism	*Clostridium botulinum* or botulinum toxin or other botulism producing *Clostridia*	X	X	
Brucellosis	*Brucella* species	X	X	
Campylobacteriosis	*Campylobacter* species	X		X
Chancroid	*Haemophilus ducreyi*			X
Chlamydia trachomatis, including lymphogranuloma venereum (LGV)	*Chlamydia trachomatis*	X (if LGV strain)		X
Cholera	*Vibrio cholerae*	X	X	
Coccidioidomycosis	*Coccidioides immitis*			X
Creutzfeldt-Jakob disease	14-3-3 protein from CSF or any brain pathology suggestive of CJD			X
Cryptosporidiosis	*Cryptosporidium species*			X
Cyclosporiasis	*Cyclospora cayatensis*			X
Diphtheria	*Corynebacterium diphtheriae*	X	X	
Ehrlichiosis	*Ehrlichia* species			X
Encephalitis, infectious	Isolation from or demonstration in brain or central nervous system tissue or cerebrospinal fluid, of any pathogenic organism	X		X
Epsilon toxin of Clostridium perfringens	*Clostridium perfringens*, epsilon toxin		X	
Escherichia coli O157:H7 infection	*Escherichia coli* O157:H7	X	X	
Giardiasis	*Giardia* species			X
Glanders	*Burkholderia mallei*	X	X	
Gonococcal infection	*Neisseria gonorrhoeae*			X
Haemophilus influenzae invasive disease	*Haemophilus influenzae*, isolated from a normally sterile site	X	X	
Hantavirus infection	Hantavirus	X	X	
Harmful algal bloom related illness	Not Applicable			X
Hemolytic uremic syndrome, post-diarrheal	Not Applicable			X
Hepatitis A acute infection	Hepatitis A virus IgM		X	
Hepatitis, viral (B, C, D, E, G, all other types and undetermined)	Hepatitis B, C, D, E and G virus, other types			X

Instructions for Maryland Communicable Disease Laboratory Reporting (DHMH 1281) REVISED: October 24, 2008

Table 1	Reportable Diseases and Conditions			
HEALTH CARE PROVIDERS, INSTITUTIONS, & OTHERS[1]	LABORATORIES		TIMEFRAME FOR REPORTING[2]	
Diseases and Conditions	**Laboratory Evidence of**	**Submit Clinical Materials to the Department[3]**	**Immediate**	**Within One Working Day**
Human immunodeficiency virus (HIV)[5]	HIV infection, including detectable viral load	X (on request)		X
Influenza-associated pediatric mortality	Influenza virus – associated pediatric mortality in persons aged <18 years (if known)			X
Influenza: novel influenza A virus infection	Isolation of influenza virus from humans of a novel or pandemic strain	X	X	
Isosporiasis	*Cystoisospora belli* (synonym *Isospora belli*)			X
Kawasaki syndrome	Not Applicable			X
Legionellosis	*Legionella* species	X (if isolate from human)	X	
Leprosy	*Mycobacterium leprae*	X		X
Leptospirosis	*Leptospira interrogans*	X		X
Listeriosis	*Listeria monocytogenes*	X		X
Lyme disease	*Borrelia burgdorferi*			X
Malaria	*Plasmodium* species	X		X
Measles (rubeola)	Measles virus		X	
Melioidosis	*Burkholderia pseudomallei*	X	X	
Meningitis, infectious	Isolation or demonstration of any bacterial, fungal, or viral species in cerebrospinal fluid	X		X
Meningococcal invasive disease	*Neisseria meningitidis* (including serogroup, if known), isolated from a normally sterile site	X	X	
Microsporidiosis	Various microsporidian protozoa, including but not limited to, *Encephalitozoon species*			X
Mumps (infectious parotitis)	Mumps virus			X
Mycobacteriosis, other than tuberculosis and leprosy	*Mycobacterium* spp., other than *Mycobacterium tuberculosis* complex or *Mycobacterium leprae*	X		X
Pertussis	*Bordetella pertussis*		X	
Pertussis vaccine adverse reactions	Not Applicable			X
Pesticide related illness	Cholinesterase below the normal laboratory range.			X

Instructions for Maryland Communicable Disease Laboratory Reporting (DHMH 1281) REVISED: October 24, 2008

Table 1	Reportable Diseases and Conditions			
HEALTH CARE PROVIDERS, INSTITUTIONS, & OTHERS[1]	LABORATORIES		TIMEFRAME FOR REPORTING[2]	
Diseases and Conditions	Laboratory Evidence of	Submit Clinical Materials to the Department[3]	Immediate	Within One Working Day
Plague	*Yersinia pestis*	X	X	
Pneumonia in a health care worker resulting in hospitalization	Various organisms			X
Poliomyelitis	Poliovirus	X	X	
Psittacosis	*Chlamydophila psittaci* (formerly *Chlamydia psittaci*)			X
Q fever	*Coxiella burnetii*	X	X	
Rabies (human)	Rabies virus		X	
Ricin toxin poisoning	Ricin toxin (from *Ricinus communis* castor beans)		X	
Rocky Mountain spotted fever	*Rickettsia rickettsii*			X
Rubella (German measles) and congenital rubella syndrome	Rubella virus		X	
Salmonellosis (nontyphoidal)	*Salmonella* species, including serogroup, if known	X		X
Severe acute respiratory syndrome (SARS)	SARS–associated coronavirus (SARS-CoV)	X	X	
Shiga-like toxin producing enteric bacterial infections	Shiga toxin or shiga-like toxin or the toxin-producing bacterium	X	X	
Shigellosis	*Shigella* species, including species or serogroup, if known	X		X
Smallpox and other orthopoxvirus infections	Variola virus, vaccinia virus, and other orthopox viruses	X	X	
Staphylococcal enterotoxin B poisoning	*Staphylococcus* enterotoxin B		X	
Streptococcal invasive disease, Group A	*Streptococcus pyogenes*, Group A, isolated from a normally sterile site	X		X
Streptococcal invasive disease, Group B	*Streptococcus agalactiae*, Group B, isolated from a normally sterile site	X		X
Streptococcus pneumoniae invasive disease	*Streptococcus pneumoniae*, isolated from a normally sterile site	X		X
Syphilis	*Treponema pallidum*			X
Tetanus	*Clostridium tetani*			X
Trichinosis	*Trichinella spiralis*			X
Tuberculosis and suspected tuberculosis[6]	*Mycobacterium tuberculosis* complex	X	X	

Instructions for Maryland Communicable Disease Laboratory Reporting (DHMH 1281) REVISED: October 24, 2008

Table 1	Reportable Diseases and Conditions			
HEALTH CARE PROVIDERS, INSTITUTIONS, & OTHERS[1]	LABORATORIES		TIMEFRAME FOR REPORTING[2]	
Diseases and Conditions	Laboratory Evidence of	Submit Clinical Materials to the Department[3]	Immediate	Within One Working Day
Tularemia	*Francisella tularensis*	X	X	
Typhoid fever (case, carrier, or both, of Salmonella Typhi)	*Salmonella* Typhi	X	X	
Vancomycin-intermediate *Staphylococcus aureus* (VISA) infection or colonization	Intermediate resistance of the *S. aureus* isolate to vancomycin	X		X
Vancomycin-resistant *Staphylococcus aureus* (VRSA) infection or colonization	Resistance of the *S. aureus* isolate to vancomycin	X		X
Varicella (chickenpox), fatal cases only	Varicella-zoster virus (Human herpesvirus 3)			X
Vibriosis, non-cholera[7]	All non-cholera *Vibrio* species[7]	X		X
Viral hemorrhagic fevers (all types)	All hemorrhagic fever viruses, including but not limited to Crimean-Congo, Ebola, Marburg, Lassa, Machupo viruses		X	
Yersiniosis	*Yersinia* species	X		X

Footnotes:

1. As required to report in Regulation .04A(1)—(3), (5), and (6) of this chapter.
2. The timeframe for reporting is specified in regulation .04C of this chapter.
3. Clinical material shall be submitted according to §B of this regulation.
4. Any grouping or clustering of patients having similar disease, symptoms, or syndromes that may indicate the presence of a disease outbreak.
5. Acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV), including CD4+ lymphocyte count and viral load, are reportable under Subtitle 18 of this title and COMAR 10.18.02.
6. Tuberculosis confirmed by culture and suspected tuberculosis as indicated by:
   a. A laboratory confirmed acid-fast bacillus on smear;
   b. An abnormal chest radiograph suggestive of active tuberculosis;
   c. A laboratory confirmed biopsy report consistent with active tuberculosis; or
   d. initiation of two or more anti-tuberculosis medications.
7. Vibriosis, non-cholera, identified in any specimen taken from teeth, gingival tissues, or oral mucosa is not reportable.

Legal Authority: Maryland Code Annotated, Health-General § 18-205, effective 10/1/2008, and Code of Maryland Regulations (COMAR) 10.06.01, chapter amended as an emergency provision effective October 1, 2008. For HIV: COMAR 10.18.02. Please refer to the text of COMAR itself for complete reporting information.

What to Report – Diseases, Conditions, etc.: Laboratories must report laboratory evidence of the agents responsible for the diseases and conditions that health care providers are also required to report as indicated in Table 1 above. Reporting by laboratories does not nullify the health care provider's or institution's obligation to report these diseases and conditions, nor does reporting by laboratories nullify the health care provider's or institution's obligation to report.

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What to Report – Content: The DHMH 1281 form, available on this website, should be used for reporting diseases and conditions other than HIV and CD4 results. Use the DHMH 4492 form for HIV and CD4. The report should, at a minimum, contain the information shown in the following table (and listed in COMAR). Additional information that would aid in the public health follow-up of a report is acceptable. If DHMH 1281 is not used, the report must contain all the required data elements and be approved by the Secretary.

Table 2 REQUIRED INFORMATION CONTENT FOR A LABORATORY REPORT
Patient Information
Name (including) Last First Middle initial Date of birth Sex Race Ethnicity Pregnancy status (if applicable) Resident address, including: House number Street Apartment number City State Zip code (Area code) Telephone number Other epidemiological information as specified by the Secretary or Health Officer
Health Care Provider (who ordered the test)
Name Address, including: Number Street City State Zip code (Area code) Telephone
Facility (who ordered the test)
Name Address, including: Number Street City State Zip code (Area code) Telephone

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Test Information
Specimen collection date Specimen received date Specimen type (for example, blood, urine, stool, etc.) Specimen site (for example, cervix, eye, etc.) Test resulted date Test type Test results, including: Qualitative/Quantitative Reference range Speciation, grouping, or typing If reporting hepatitis C infection: Signal to cut-off ratio and the critical value Hepatitis A IgM antibody result (if done) Hepatitis B core IgM antibody result (if done)
Laboratory Performing the Test
Name CLIA certificate number Laboratory Director Address, including: Number Street City State Zip code (Area code) Telephone
General Information
Date the report is sent to the health department Note: If a medical laboratory forwards clinical materials out of state for testing, the originating medical laboratory must comply with all requirements for reporting and specimen submission by either reporting the results and submitting the clinical materials themselves, or by ensuring that results are reported appropriately and clinical materials are submitted. If you are ordering testing from a reference laboratory, make sure to include all patient demographic information, and ordering provider and ordering facility information with your orders.

How to Report: The report should be submitted on the form that DHMH provides (see http://www.edcp.org/html/reprtabl.html). Use form DHMH 4492 for HIV and CD4 reports and form DHMH 1281 for all other diseases and conditions. DHMH will generally accept reports formatted as a physician report, provided that all required information is included. Any custom report format must, at a minimum, provide data fields for all required information. Several reports for *one* patient may be printed on a single page, but reports for more than one patient should *never* appear on a single page.

Mailed reports should be placed in a sealed envelope marked "confidential." Reports may be faxed for all diseases and conditions EXCEPT HIV and CD4 which MUST NOT BE FAXED.

When to Report: Laboratories should report according to the "Timeframe for Reporting" shown in Table1. There are two timeframe categories: "immediate" and "within one working day." When an immediate report is required, the person making the report should communicate directly with an individual and not leave a message on an answering device.

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Where to Report: (1) Each jurisdiction in Maryland has its own health department. **For medical laboratories located in Maryland**, reports should be submitted to the local health department in the jurisdiction where the lab is located (see Table 3 for addresses and telephone numbers). (2) **For medical laboratories located outside of Maryland**, reports should be submitted to the state health department (see Table 3 for address and telephone).

Submitting Clinical Materials: Refer to the "Laboratories" columns of Table 1 to determine which diseases and conditions require submission of clinical materials. "Clinical material" means: (a) an organism isolated from a clinical specimen; (b) Material derived or prepared from a clinical specimen in which evidence of a communicable disease has been identified or detected; or (c) if the organism or material described in (a) or (b) is not available, material from an individual that has already been obtained by the medical laboratory, in the following order of preference: a patient specimen, microbial genetic material, or other laboratory material. For *Mycobacterium tuberculosis*, "clinical material" includes one culture obtained from the primary isolate on which the diagnosis of tuberculosis was established. Only one *M. tuberculosis* isolate per patient need be submitted.

Clinical materials should be submitted to the Department's public health laboratory within one working day of a positive laboratory finding or upon request of the Secretary. The clinical materials should be accompanied by forms provided by the DHMH laboratory. The appropriate forms ("lab slips") can be obtained by contacting the DHMH laboratory (Grace Comer or Lena Gladden, 410-767-6120). Ask for forms DHMH 4676, "Infectious Agents: Culture/Detection", and DHMH 4677, "Serological Testing". The type of material being submitted will determine which form is to be used. (Only small quantities of lab slips should be ordered at this time because the forms are being revised.) For questions regarding completion of the forms, please contact Denise Shackleford at the DHMH laboratory at 410-767-6116. Also, please ensure that the patient's name appears on each specimen along with the barcode label from the lab slip.

PART II:

CHAPTER 6:

PUBLIC HEALTH AND MEDICAL SURGE RECOVERY STRATEGIES

PART III: RECOVERY

CHAPTER 6: PUBLIC HEALTH AND MEDICAL SURGE RECOVERY STRATEGIES

The goal of the recovery process is to resume normal operations and activities as soon as possible following mitigation of the disaster or catastrophe. Recovery can be divided into short-term and long-term processes. The type of disaster or catastrophe will determine what comprises the short-term and the long-term recovery processes. Specifically, the factors involved in public health and medical recovery will be linked to the specific tiers that were activated as part of the surge response that was needed.

It is important in overall public health and medical surge planning to plan for the recovery process. DHMH, local health departments, hospitals, MIEMSS, and other critical infrastructure/key resource partners should develop and exercise their recovery plans. Ensuring continuity of essentials services is a key aspect of successful recovery planning. Returning to normal public health and medical practice is an important part of moving Maryland forward following a major incident.

Recovery efforts may be dependent on whether or not some of the following activities were activated as part of the response to the incident:

- Type of incident (biological; chemical; mass fatality; etc.)
- Nature and size of the disaster
  - Single Hospital (Tier 1) to National Response (Tier 6)
  - Extent of illnesses/deaths
- Duration of the disaster and response
- Amount of resources needed for the response
- Number of staff needed
- Activation of the Maryland Professional Volunteer Corps (MPVC)
- Amount of supplies that were depleted
- Use of Strategic National Stockpile
- EMAC Activated
- Preparation for multiple waves
- Opening of alternate care sites
- Change in the standards of care

Short term recovery efforts will focus on ensuring continuity of operations (COOP) and restoration of essential services. During an incident or emergency that requires public health and medical surge, response activities that have been activated may take priority over other normal public health activities. Therefore, part of the recovery efforts will be to restore the public health services that were delayed or suspended during the response. For example, during pandemic influenza, the laboratory may suspend testing of samples for other diseases and give priority to influenza samples. During recovery, the laboratory would transition back to its normal, pre-

event testing procedures for these diseases. The time it takes to resume non-emergency public health functions and to return to normal operations may vary depending on the personnel, time, and resources available to carry out these functions. Other short term recovery activities will include targeted cessation of surge capacity strategies and coordination of the return to the expected standards of care.

Another critical aspect of recovery is the initiation of behavioral health measures for public health and medical staff, their families and the general public. Individuals may experience severe psychological stress and trauma both during and following a surge incident or emergency. Ongoing awareness of behavioral health needs should occur during the response phase of the emergency, as well as during the recovery phase. Both short term and long term recovery efforts should include plans to address the mental and behavioral health needs of individuals involved in the response, as well as others affected by the emergency. To assist in mitigation of behavioral health issues, credentialed members of the Maryland Professional Volunteer Corps, including physicians and nurses with a psychiatric specialty, psychologists, and clergy trained in psychological first aide, may be deployed throughout the state to provide support.

Long term recovery efforts may include a continuation of these short term recovery activities as well as additional actions. A key component in recovery will be the assessment and evaluation of the response and the development of corrective actions to implement for a stronger response during future incidents and emergencies. These efforts may include making revisions to response plans, including surge plans and continuity of operations (COOP) plans, conducting drills and exercises to test these revisions, and providing additional training as necessary.

Tables 1-5 identify examples of the activities, roles and responsibilities for DHMH, local health departments, hospitals, MIEMSS, and other preparedness partners to consider as Maryland recovers from a disaster that required the activation of the Public Health and Medical Surge Plan. Items may be added or deleted as each entity reviews and refines its specific recovery plan. This portion of the State's Public Health and Medical Surge Plan should be updated as needed when additional information becomes available.

TABLE 13: RECOVER
Roles and Responsibilities for DHMH

DHMH	
Short Term	• Recommend de-activation of the catastrophic health emergency. • Conduct after action review for lessons learned. • Attend to staffing needs such as time off or revised schedules depending on the type of disaster. • Initiate Behavioral Health measures for staff, preparedness partners, their families and the general public. • Initiate targeted cessation of surge capacity strategies. • Coordinate the return to the expected standards of care. • Provide updated health information for MEMA's. Joint information center (JIC) for press release materials on current situation. • Update websites, hotlines/call centers and other risk communication systems. • Identify and inventory items needed to replenish stockpiles/ caches; PPE; and other supplies. • Identify additional training needed.
Long Term	• Replenish stockpiles/ caches; PPE; and other supplies as soon as possible. • Revise plans based on the corrective actions from the AAR. • Conduct additional training needed. • Conduct exercises and/or drills to test the items updated as per the AAR and the corrective actions.

TABLE 14: RECOVER
Roles and Responsibilities for Local Health Departments

Local Health Departments	
Short Term	• Conduct after action review for lessons learned. • Initiate targeted cessation of surge capacity strategies. • Identify and inventory items needed to replenish stockpiles/ caches; PPE; and other supplies. • Initiate Behavioral Health measures for staff, their families and the general public.
Long Term	• Replenish stockpiles/ caches; PPE; and other supplies as soon as possible. • Revise plans based on the corrective actions from the AAR.

TABLE 15: RECOVER
Roles and Responsibilities for Hospitals

Hospitals	
Short Term	• Conduct after action review for lessons learned. • Initiate targeted cessation of surge capacity strategies. • Identify and inventory items needed to replenish stockpiles/ caches; PPE; and other supplies. • Initiate Behavioral Health measures for staff, their families and patients. • Work with DHMH to coordinate the return to the expected standards of care.
Long Term	• Replenish stockpiles/ caches; PPE; and other supplies as soon as possible.

	• Revise plans based on the corrective actions from the AAR.

TABLE 16: RECOVER
Roles and Responsibilities for MIEMSS

MIEMSS	
Short Term	• Conduct after action review for lessons learn. • Initiate targeted cessation of surge capacity strategies. • Identify and inventory items needed to replenish stockpiles/ caches; PPE; and other supplies. • Initiate Behavioral Health measures for staff and their families.
Long Term	• Replenish stockpiles/ caches; PPE; and other supplies as soon as possible. • Revise plans based on the corrective actions from the AAR.

TABLE 17: RECOVER
Roles and Responsibilities for Other Partners

Other Partners	
Short Term	• Conduct after action review for lessons learn. • Initiate targeted cessation of surge capacity strategies. • MEMA and Joint information center (JIC) to Identify and inventory items needed to replenish stockpiles/ caches; PPE; and other supplies. • Initiate Behavioral Health measures for staff, their families and others as needed.
Long Term	

	• Replenish stockpiles/ caches; PPE; and other supplies as soon as possible. • Revise plans based on the corrective actions from the AAR.

APPENDIX A

Alternate Care Sites

APPENDIX A.1: ALTERNATE CARE SITES

ALTERNATE CARE SITES

The impact of a mass casualty event will likely overwhelm and may render inoperable hospitals and other traditional venues for health care services. These situations will necessitate the establishment of alternate care sites (ACS) to provide care that normally an inpatient facility would provide, including acute, sub-acute, and chronic care.

Current Status:

Pre-planning and setting up alternate triage sites, care sites, or a surge hospital is a collaborative responsibility between hospitals, DHMH, MIEMSS, local emergency management agencies, local health departments, and EMS. Some of this type of planning has occurred at the local level in Montgomery County and by some hospitals throughout the State. MIEMSS and DHMH are in the process of clarifying the specific roles and responsibilities for this planning. There is a current need for specific site planning. Hospitals have responsibility for identifying locations for alternate care sites with local emergency management in their jurisdiction. There are not yet any surge hospitals pre-planned for at this time.

Concept of Operations / Framework for Planning:

- Consider developing plans that use the concept of the Neighborhood Emergency Help Centers (NEHC) and Acute Care Centers (ACC) set forth under the Modular Emergency Medical System (MEMS) by the U.S. Army Soldier and Biological Chemical Command. See www.nnemmrs.org/surge.html

A. **Coordination and Planning**:

- Planning would require representatives from DHMH, local public health departments, local emergency management agencies, MIEMSS, EMS, and from local health care organizations or institutions.
- Planning must occur with existing health care facilities (hospitals, outpatient clinics, and multi-specialty group practices) and home care entities.

B. **Purpose of Site, Types of Patients, and Scope of Care**:

- Planners must delineate the specific medical functions and treatment objectives that the ACS facility would need to accomplish. This approach assumes that an organized mechanism exists for triage of patients into high-acuity, moderate-acuity, low-acuity, and expectant/expired categories, so that patients needs are matched with available medical resources.

- Planners should identify and create protocol driven patient management objectives, based on assumptions about the types of patients for whom the ACS will provide treatment.

- Consider different uses of ACS facilities:
  - A **primary triage point** can help decide which patients require hospitalization, which should receive care at home, and which might benefit from observational care and minimal interventions available at an ACS, or require palliative care at an ACS. Such a facility could cohort a group of patients exposed to certain infectious agents but do not need more than continued observation and minimal, if any, medical intervention.
  - A **community focused ambulatory clinic** that serves as a point of distribution for delivery of medications, vaccinations, or other medical interventions to a wide population.
  - A **low-acuity patient care site** to permit the offloading of stable patients from hospitals to enhance their internal care capability or as primary sites for the care of stable low-acuity patients.

C. **Command and Control**:

- Planners must establish who has ownership, command, and control of the ACS and who will have the authority to decide whether, when, and where an ACS should open and who has the authority to operate the site.

- The ACS should follow the Hospital Incident Command System (HICS), with slight alterations to fit the unique aspects of the ACS.

D. **Site Selection**:

- The biggest challenge in planning for an ACS is the ability to procure the amount and complexity of resources or the level of staffing required to extend hospital facilities into designated ACSs. For this reason, a "building of opportunity" will likely serve as an ACS. Planners must assess potential sites for implementation of an ACS prior to an incident.

- Consider the use of three types of surge hospitals:[1]

  - Facilities / Buildings of Opportunity: Nonmedical buildings that can be adapted into surge hospitals because of their size or proximity to a medical center.
  - Mobile Medical Facilities: Mobile surge hospitals based on tractor-trailer platforms with surgical and intensive care capabilities.
  - Portable Facilities: Mobile medical facilities that could be set up quickly and are fully equipped, self-contained, turnkey systems usually stored in a container system and based on military medical contingency planning.

  - DHMH State facilities may have the ability to serve as a resource to government agencies and other health care providers during an emergency or disaster. The larger facilities,

[1] All three types of contingencies were used and deployed during the aftermath of Hurricane Katrina.

such as the Western Maryland Hospital Center and the Springfield Hospital Center sit on many acres of land and have vacant buildings. These larger facilities could provide space to others providers or emergency responders in the community to set up decontamination tents, mobile health care centers, or to serve as a point of distribution for prophylaxis, a site for vaccination, or an alternate site for continuity of operations. Vacant buildings could potentially provide a place for quarantine, shelter, or a place to store supplies, equipment, or accommodate staff overnight.

E. **Ability to Acquire Needed Resources**:

- Determine which supplies, equipment, and pharmaceuticals are needed and financially and logistically feasible for the type of care anticipated at the ACS.

- Obtain, stockpile, and store supplies and equipment sufficient to meet the anticipated role of the ACS.

- Use strategies discussed throughout this plan for obtaining needed staff, equipment, supplies, and pharmaceuticals.

- Attempt to put in place an agreement for use of a facility with the owner in advance. If this is not possible, use emergency legal authority to acquire property needed for use as an ACS. This may include authority over private property or public and private health care facilities.
  - Under a CHE, the Governor can require the Secretary of DHMH to seize immediately anything needed to respond to the medical consequences of a CHE. Md. Code Ann., Pub. Safety §14-3A-03.
  - Under a State of Emergency, the Governor can authorize the use of private property if the Governor finds it necessary to protect the public health, welfare, and safety. When this occurs, the government must compensate the owner for any facilities temporarily or permanently procured for public use during an emergency.
  - Governor and Secretary of DHMH can use emergency and public health authority to seize and designate private property as a place to serve as a clinic for vaccination or other public health services.

F. **Documentation of Care**:

- Decide on level and type of documentation that will occur at the ACS or how such decisions will occur during an emergency.

G. **Communications**:

- Planners must consider how reliable and redundant communications will occur at the ACS.
- Develop a health care risk communication message, including criteria for seeking health care, such as postponement on non-emergency procedures or surgeries.

H. **Development Policies of Operation**:

- Incident command
- Criteria for admission, discharge, and transfer
- Clinical roles and responsibilities
- Infection control
- Pharmacy and medication control
- Safety and security
- Housekeeping
- Food Service
- Finances and Documentation

I. **Development of an Exit Strategy**:

- Ensure that planning includes details on the criteria for when to close the ACS.

Available Resources:

- **Federal Medical Stations (FMS)**:
    - Activation and deployment: This asset belongs to HHS and the State can request these resources through the normal channels of requesting federal assistance.

- **U.S. Air Force has an Expeditionary Medical Support Package (EMEDS)**:
    - This modular tent-hospital can provide, a medical laboratory, radiological equipment, dental suite and a 10-bed ward. One more three-tent module adds a supply room and boosts the EMEDS to 25 beds.

- **Tractor trailer units** configured as medical facilities could supplement a community's medical surge capacity.
    - These vehicles are commercially available, and the trailers can be equipped with operating suites, laboratories, imaging equipment and other medical components. State governments could use the vehicles and their associated staff to provide medical care and education to under-serviced communities. Vehicles could visit rural areas, prisons or border regions where they could provide diagnosis, treatment, and education. A mobile laboratory could set up at a hospital in need of diagnostic services. The entire assemblage of mobile units might rally at a single site and form a stand-alone treatment facility.

APPENDIX B

RESOURCES FOR CHAPTER 4:

RESOURCES AND STAFFING

Maryland Citizen Corps – Local Councils

Allegany County Citizen Corps Council Deborah Miller, Executive Director Volunteer Center of Allegany County 71 Baltimore Street, 3rd Floor P.O. Box 1308 Cumberland, Maryland 21501-1308 (301) 724-7116 volunteercenter@allconet.org	**Dorchester County Citizens Corps Council** Steve Garvin, Emergency Management Planner Dorchester County Emergency Management 829 Fieldcrest Road Cambridge, Maryland 21613 (410) 228-1818 sgarvin@ema.docognet.com	**Queen Anne's County Citizen Corps Council** Jason Stubbs, Lieutenant Queen Anne's County Dept. of Emergency Services 100 Communications Drive Centreville, MD 21617 (410) 758-4500 ext. 1115 jstubbs@qac.org
Anne Arundel County & Annapolis Citizen Corps Council Cathy Welker, Exercise, Training and Public Ed. Office of Emergency Management Anne Arundel County Fire Department 8501 Veterans Highway Millersville, MD 21108 (410) 222-8040 fdwelk00@aacounty.org	**Frederick County, Citizens Corps Council of** Dr. Bob Young, Chair Frederick Community College 7932 Oppossumtown Pike Frederick, MD 21702 (301) 846-2618 ryoung@frederick.edu http://www.frederickcitizenscorps.org/	**Somerset County Citizen Corps** Bonnie Edmund, Planner Somerset County Emergency Services 11916 Somerset Avenue Princess Anne, MD 21853 (410) 651-3547 bedmund@co.somerset.md.us
Baltimore City Citizens Corps Council Vernese Osborne Baltimore City Office of Emergency Management 1201 East Cold Spring Lane Baltimore, MD 21239 (410) 396-6175 Vernese.Osborne@baltimorecity.gov	**Garrett County Citizen Corps/CERT Program** Brad Frantz, Director Garrett County Office of Emergency Mgmt. 311 East Alder Street Oakland, MD 21550 (301) 334-7169 gcem@garrettcounty.org	**St. Mary's County Citizen Corps** Erin Reiney, Coordinator of Special Programs St. Mary's County Health Department 21580 Peabody St., P.O. Box 316 Leonardtown, MD 20650 (301) 475-4330 ext. 7831 stmaryscitizencorps@hotmail.com
Baltimore County Citizen Corps Council Michele Kehl, Project Coordinator Baltimore County Volunteers 611 Central Avenue Towson, MD 21204 (410) 887-2715 mkehl@co.ba.md.us Michelekehl@aol.com	**Harford County Citizen Corps Council** Elizabeth Hendrix, Deputy Director Jennifer Gould, Volunteer Emergency Preparedness Coordinator Department of Community Services 220 South Main Street Bel Air, MD 21014 (410) 638-3389 bhendrix@co.ha.md.us jgould@co.ha.md.us	**Talbot County Citizen Corps Council** Bill Dial, Emergency Planner Talbot County Emergency Management Agency 605 Port Street Easton, MD 21601 (410) 770-8166 wdial@talbgov.org
Calvert County Citizens Corps Council Sandy Simmons, Emergency Management Specialist Calvert County Division of Emergency Management 175 Main Street Prince Frederick, MD 20678 (410) 535-1600 ext. 2302 simmonsr@co.cal.md.us http://www.co.cal.md.us/residents/safety/emergency/cccc	**Howard County Community Emergency Response Network (CERN)** Richard Krieg, Chairman 10805 Hickory Ridge Road Columbia, MD 21044 (410) 715-0311 rkrieg@thehorizonfoundation.org http://www.cern.us	**Washington County Citizen Corps** Verna Brown, EMA Coordinator Washington County Division of Fire & Emergency Services 33 W. Washington St. Hagerstown, MD 21740 (240) 313-2900 Vbrown@washco-md.net
Caroline County Citizen Corps Council Dale Anderson, Emergency Planner Caroline County Dept. of Emergency Management 104 Market Street Suite 102 Denton, MD 21629 (410) 479-4025 dandserson@emerg.caroline.md.us www.carolinecitizencorps.org	**Kent County Citizens Corps Council** Sue Willits, Deputy Director Kent County Office of Emergency Services 104 Vickers Drive, Unit D Chestertown, MD 21620 (410) 778-3758 swillits@kentgov.org	**Wicomico County Citizen Corps Council** Doug Jones, Emergency Management Coordinator Wicomico County Emergency Management 411 Naylor Mill Rd Suite 200 Salisbury, MD 21801 (410) 548-4820 djones@wicomicocounty.org
Carroll County Citizen Corps Council Judi Johnson, Director Volunteer Caroll 255 Clifton Boulevard Westminster, MD 21158 (410) 456-3984 JudithMJohnson@aol.com www.volunteercarroll.org	**Montgomery County Citizen Corps Council** Ann Evans, Program Manager Montgomery County Volunteer Center 401 Hungerford Drive Rockville, MD 20850 (240) 777-2612 ann.evans@montgomerycountymd.gov	**Worchester County Citizen Corps/CERT Program** Fred Webster, Assistant Director Worchester County Emergency Services 1 West Market Street, Room 1002 Snow Hill, MD 21863 (410) 632-3080 fwebster@co.worchester.md.us
Cecil County Citizen Corps Council Amy Temple, Hazard Mitigation Coordinator Cecil County Department of Emergency Services 129 East Main Street, Suite 6 Elkton, MD 21921 (410) 996-5350 atemple@ccgov.org	**Ocean City Citizen Corps Council** Joseph Theobald, Director Ocean City Emergency Services 6501 Coastal Highway Ocean City, MD 21842 (410) 520-5485 jtheobald@ococean.com	To Learn More About the **Maryland Citizen Corps** program, contact: Emergency Management Coordinator Governor's Office on Service and Volunteerism 301 West Preston Street, 15th Floor Baltimore, MD 21201 (410) 767-1674 dstaigerwald@gosv.state.md.us

Charles County Citizens Corps Jennifer Adams, Emergency Services Specialist Charles County Dept. of Emergency Services P.O. Box 2150 200 Baltimore Street La Plata, MD 20646 (301) 609-3400 adamsjen@charlescounty.org	**Prince George's County Citizen Corps Council** Ernest Walker, Chief of Community Affairs and Education 6820 Webster Street Room 113 Landover Hills, MD 20784 (301) 583-1899 cshawkins@co.pg.md.us	

Maryland Medical Reserve Corps Units

The Medical Reserve Corps is a nation-wide federally sponsored program made up of community based units that organize and utilize volunteers who can supplement existing emergency and public health resources during emergencies or times of need.

MRC volunteers include medical and public health professionals such as physicians, nurses, pharmacists, dentists, veterinarians, and epidemiologists. Many community members—interpreters, chaplains, office workers, legal advisors, and others—also fill key support positions.

Volunteers provide support in their local communities with establishing medical needs shelters, administering medical care in evacuee shelters and clinics, replacing first responders that may be deployed to disaster-affected regions, immunizing first responders, staffing response hotlines, and teaching emergency preparedness to the public.

Below are the contact and other volunteer information for the local MRC units in Maryland:

Baltimore City Medical Reserve Corps
401 Fayette Street
Baltimore, MD 21202
Joey Henderson
(410) 396-6188

Frederick County Medical Reserve Corps
31 W. Patrick Street
Suite L2
Frederick, MD 21701
Lisa Orr
301-663-5214 ext.3

Harford County Medical Reserve Corps
119 S. Hayes Street
Bel Air, MD 21015
Reed Correll
410-638-8476

Howard County Medical Reserve Corps
10805 Hickory Ridge Road
Suite 215
Columbia, MD 21042
Laurie Nelson
240-426-2528

Maryland Defense Force – Baltimore County Emergency Medical Volunteers
8000 York Road
Towson University
Towson, MD 21252
COL. (MD) Wayne Nelson, Ph.D.
410-704-4845

The Maryland Defense Force (MDDF) is a distinct component of the Military Department of Maryland. MDDF--MRC Volunteers provide professional and technical support to Baltimore Public Health officials during natural or man-made disasters ranging from hurricanes and floods to bioterrorist attacks. MDDF volunteers also provide a range of medical and allied health assistance to the Maryland National Guard. Although the MDDF is federally authorized, it is a local volunteer response force constituted for state duty only.

Licensed professionals provide auxiliary assistance to public health authorities for: Mass prophylaxis, County health shelters, Infirmary care, Mass triage, Minor First Aid. Retired professionals who no longer have a license assist in: Reception centers, Field clinics as greeters, family assistance centers: mass casualty health service support. People without health care backgrounds can supply: Administrative support, shelter management, logistical assistance, crowd flow control, recruiting, finance, communications, victim tracking, victim identification, body disposition, death notification and many other roles.

Montgomery County Medical Reserve Corp.
401 Hungerford Drive
Rockville, MD 20850
Ann Reiss
240-777-2618

Prince George's County Health Department Medical Reserve Corp.
1701 McCormick Drive
Largo, MD 20774
Cynthia Baker
301-883-7802

Western Maryland Area Health Education Center
11 Columbia Street
Cumberland, MD 21502
Martha Bird-Middleton
301-777-9150

The Western Maryland Area Health Education Center (WMAHEC) coordinates the MRC. Guided by an active advisory committee composed of community partners, the MRC's mission is to support the existing community health care infrastructure, enhance the capability of the county's emergency response structure, and provide public education.

Volunteer Centers in Maryland

Volunteer Center of Allegany County Deborah Miller, Executive Director 71 Baltimore Street, 3rd Floor P.O. Box 1308 Cumberland, MD 21501-1308 (301) 724-7116 p (301) 724-1044 f Volunteercenter@allconet.org www.volunteerallegany.allconet.org	**Volunteer Carroll** Judi Johnson, Director P.O. Box 229 255 Clifton Blvd. Westminster, MD 21157 (410) 456-3984 p (410) 848-7198 f JudithMJohnson@aol.com www.volunteercarroll.org	**Prince George's Volunteer Center** Theresa Gardener-Williams, Executive Director 5012 Rhode Island Avenue Hyattsville, MD 20781 (301) 699-2800 p (301) 699-2806 f pgvolunteerctr@mindspring.com www.multimax.com/pg/volunteer
Volunteer Center for Anne Arundel County Fay Mauro, Executive Director 2666 Riva Road, Suite 130 Annapolis, MD 21401 (410) 897-9207 p (410) 222-4589 f info@volunteerannearundel.org www.VolunteerAnneArundel.org	**Volunteer Frederick** Lisa Orr, Executive Director 31 West Patrick Street, Suite L2 Frederick, MD 21701 (301) 663-5214 p (301) 663-0355 f info@volunteerfrederick.org www.volunteerfrederick.org	**ShoreCAN Volunteer Center** ***Wicomico, Somerset, Worchester Counties*** Hazel Ricker Salisbury University 1101 Camden Avenue Salisbury, MD 21801 (410) 545-6015 p (410) 546-6910 f hlrrsvp@intercom.net shorecan@salisbury.edu
BVU's Volunteer Central Kate Scherr 175 West Ostend Street, Suite 100 Baltimore, MD 21230 (410) 366-6030 p (410) 366-6032 f kate@volunteercentral.net information@volunteercentral.net www.volunteercentral.net	**Harford Volunteer Connection & RSVP** Joy Brewster, Community Resources Coordinator 319 South Main Street Bel Air, MD 21014 (410) 638-4444 p (410) 803-0433 f rsvp@co.ha.md.us www.co.ha.md.us	**Volunteer Southern Maryland** ***Calvert, Charles, St. Mary's Counties*** College of Southern Maryland La Plata Campus 8730 Mitchell Road P.O. Box 910 La Plata, MD 20646-0910 (301) 934-7642 p (301) 934-7773 f volunteer@csmd.edu www.csmd.edu/vsmd
Baltimore County Volunteers Scott Jaudon, Manager 611 Central Avenue, Rm. 314 Towson, MD 21204 (410) 887-2715 p (410) 887-2656 f sjaudon@co.ba.md.us	**Volunteer Center Serving Howard County** Michael-Anne Gomez, Executive Director 10221 Wincopin Circle Columbia, MD 21044 (410) 715-3172 p (410) 715-0845 f info@volunteerhoward.org www.volunteerhoward.org	**Volunteer Services Worchester County Government** Cyndy Howell, Volunteer Services Manager Government Center, Room 1301 One West Market Street Snow Hill, MD 21863 (410) 632-5656 p (410) 632-5614 f chowell@co.worchester.md.us

United Way of Calvert County **Volunteer Resource Center** Theresa Berkoski 530 Main Street P.O. Box 560 Prince Frederick, MD 20678 (410) 286-0103 p (410) 535-8987 f uwvrc@chesapeake.net www.unitedwaycalvert.org	**Montgomery County Volunteer Center** Andrea Jolly, Director 401 Hungerford Drive Rockville, MD 20850 (240) 777-2600 p (240) 777-2601 f volunteer@montgomerycountymd.gov www.montgomerycountymd.gov	To learn more about volunteer opportunities in Maryland, call: **Governor's Office on** **Service and Volunteerism** (410) 767-1216 or (800) 321-VOLS or visit the Maryland volunteers website: www.gosv.state.md.us

Maryland Chapters of the American Red Cross

- The American Red Cross of Central Maryland
  4800 Mt Hope Dr.,
  Baltimore, MD 21215
  Telephone: 410-624-2000
  Fax: 410-764-4914
  Blood Services telephone number is 410-764-7000.

- American Red Cross, Southern Maryland Chapter
  Post Office Box 507
  La Plata, Maryland 20646
  Telephone: 888-276-2767
  Telephone: 301-934-2066
  Fax: 301-753-4042

- American Red Cross, Frederick County Chapter
  2 East Frederick St.,
  P.O. Box 186,
  Walkersville, MD 21793
  Telephone: 301-662-5131
  Fax: 301-845-2689

- American Red Cross of Washington County
  1131 Conrad Ct
  Hagerstown, MD 21740
  Telephone: 301-739-0717
  Fax: 301-739-6181

- American Red Cross, Lower Shore Chapter
  PO Box 3714
  Salisbury, Maryland 21802-3714
  Telephone: 410- 749-5331

METHODS / RESOURCES FOR INCREASING CAPACITY:

1. **Private MOUs**:
   Hospitals and health care facilities should enter into MOUs with private security guard companies in the community, surrounding jurisdictions, or surrounding states to provide needed security during emergencies.

2. **Local law enforcement**:
   Facilities should contact local law enforcement to find out if they have the ability to provide needed security. Local law enforcement may have plans in place for acquiring additional personnel, recruiting retired professionals, and using community Volunteer in Police Service programs.

3. **Intra-State Mutual Aid Agreements**:
   The local jurisdiction may request law enforcement assistance from an unaffected county through mutual aid agreements or a MEMAC request.

4. **State Law Enforcement Personnel**:
   State law enforcement personnel may provide needed assistance or may have plans in place for acquiring additional personnel, recruiting retired professionals, and using community Volunteer in Police Service programs.

5. **State Military (National Guard)**:
   The Governor has the authority to activate the Maryland National Guard during actual or threatened times of public crisis, disaster, rioting, catastrophe, insurrection, invasion, breach of peace, or when martial law is declared. When the National Guard is activated for use in enforcing the state's laws, it has all the power of a law enforcement officer.

6. **Out of State Law Enforcement Personnel or National Guard**:

   A Governor may request the assistance of another State's law enforcement personnel or another State's National Guard (with exceptions) through EMAC and/or National Guard Mutual Assistance Compacts when these resources are needed to respond to an emergency.

7. **Federal Military**:
   The President may call up State National Guards under continuing State control but in the service and at the expense of the Federal government for use in humanitarian assistance or for law enforcement purposes to execute the laws of the U.S., suppress insurrections, and repels invasions and domestic violence against a State.

   Military may provide temporary emergency assistance for certain situations involving weapons of mass destruction.

APPENDIX C

Additional Resources for Medical Surge

Alternate Care Sites:

1. http://www.ahrq.gov/research/altsites/
   Link for EXCEL file containing tool is imbedded in document at above link.

2. http://www.ahrq.gov/research/altsites/alttool1.htm
   Alternate Care Sites Matrix: actual link is imbedded in this document. Can be downloaded in EXCEL format.

Altered Standards of Care sites:

1. http://www.ahrq.gov/research/altstand/ actual html on-line document
2. http://www.ahrq.gov/research/altstand/altstand.pdf - pdf version of document.
3. http://www.ahrq.gov/news/press/pr2005/altstdpr.htm research results re: altered standards of care during emergency.
4. http://www.ahrq.gov/path/katrina.htm a tools resource.
5. http://www.ahrq.gov/research/mce/mceguide.pdf mass medical care with scarce resources

AHRQ Models:

1. **Anthrax:**
   http://www.ahrq.gov/prep/hospsurgemodel/description/description1.htm
   http://www.ahrq.gov/research/biomodel/howto.asp how to use model
   http://www.ahrq.gov/research/jun04/0604RA18.htm clinical decision making in anthrax exposure
   Pandemic Influenza:
   http://www.ahrq.gov/prep/callcenters/call5.htm adapting community call centers for pan flu.
   http://www.ahrq.gov/downloads/pub/biotertools/cbmprophyl.pdf community based mass prophylaxis for pan flu
   http://www.ahrq.gov/research/health/health.pdf health emergency assistance line and hub
   http://www.ahrq.gov/research/health/healthmodelv1.xls actual Rocky Mountain assessment tool
3. **Mass Casualty**
   http://www.ahrq.gov/news/ulp/btbriefs/btbrief11.htm Developing alternative approaches to mass casualty care
   http://www.ahrq.gov/news/ulp/btsurgemass/claypooltxt.htm slide presentation re: mass casualty surge.
   http://www.ahrq.gov/news/ulp/btsurgemass/claypool.ppt direct ppt slide presentation link.

Hospital Operational Tools Manual: State of California
http://bepreparedcalifornia.ca.gov/NR/rdonlyres/8A8460AB-EB3F-4644-B352-7C03081F482D/0/Operational_Tools_Hospital_FINAL.pdf

Govt-Authorized Alternate Care Site Operational Tools Manual
http://bepreparedcalifornia.ca.gov/NR/rdonlyres/C2AD6528-F781-4D8C-B900-828A1C2C6F0C/0/Operational_ACS_Ops_Tool_FINAL.pdf

APPENDIX D

Acronyms

ACRONYMS:

AAR	After Action Report
ACS	Alternate Care Sites
ASPR	Assistant Secretary for Preparedness and Response
CAPT	Captain
CDC	Centers for Disease Control & Prevention
CERT	Community Emergency Response Team
CHE	Catastrophic Health Emergency
CI/KR	Critical Infrastructure and Key Resources
CMS	Centers for Medicare and Medicaid Services
COOP	Continuity of Operations
DHHS	Department of Health and Human Services, United States
DHMH	Maryland Department of Health & Mental Hygiene
DHS	Department of Homeland Security, United States
DMAT	Disaster Medical Assistance Teams
DMORT	Disaster Mortuary Response Teams
EEG	Exercise Evaluation Guides
EMAC	Emergency Management Assistance Compact
EMS	Emergency
EMTALA	Emergency Medical Treatment and Active Labor Act
EOC	Emergency Operations Center
ESF-8	Emergency Support Function 8: Public Health & Medical
FRED	Facility Resource Emergency Database
HIPAA	Health Insurance Portability and Accountability Act
HPP	Hospital Preparedness Program
HSEEP	Homeland Security Exercise and Evaluation
ICS	Incident Command System
IP	Improvement Plan
JICC	Joint Information Coordinating Center
LHD	Local Health Department/s
MCE	Mass Casualty Event
MDVOAD	Maryland Volunteer Organizations Active in Disaster
MEMA	Maryland Emergency Management Agency
MEMAC	Maryland Emergency Management Assistance Compact
MIEMSS	Maryland Institute for Emergency Medical Services System
MOU	Memoranda of Understanding
MPVC	Maryland Professional Volunteer Corps
MRC	Medical Reserve Corps
NDMS	National Disaster Medical System
NIMS	National Incident Management System
NNRT	National Nurse Response Team
NPRT	National Pharmacy Response Teams
NRF	National Response Framework

OCME	Office of the Medical Examiner
OP&R	Office of Preparedness & Response
PHEPs	Public Health Emergency Planners
PHRT	Public Health Response Training
PIO	Public Information Officer
POD	Point of Dispensing
PPE	Personal Protective Equipment
RACES	Radio Amateur Civil Emergency Service
SEOC	State Emergency Operations Center
SNS	Strategic National Stockpile
SOP	Standard Operating Procedures
TEEX	Texas Engineering Extension Service
USPHS	United States Public Health Services
VMAT	Veterinary Medical Assistance Teams